UNITED STATES
DEPARTMENT OF
COMMERCE
PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

January 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

FOR RELEASE: April 2, 1971

SERIES: M28C(71)-1

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Industrial Gases: 1969 to 1971**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen, high and low purity (99.5-100%) (Mil. cu. ft.)	Nitrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Oxygen, high and low purity (99.5-100%) (Mil. cu. ft.)
1971						
January	961	61,941	18,285	4,641	13,881	27,387
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,102	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
August	1,124	73,394	33,222	4,939	(NA)	25,604
July	1,214	69,544	34,621	4,764	(NA)	26,198
June	1,220	68,349	31,993	4,972	(NA)	26,496
May	1,275	77,928	31,787	5,001	(NA)	27,261
April	1,319	72,872	29,409	4,951	(NA)	26,734
March	1,306	67,224	29,227	4,933	(NA)	27,052
February	1,254	52,850	27,279	4,644	(NA)	25,161
January	1,228	53,370	20,323	4,824	(NA)	26,022
1969						
December	1,217	52,457	26,675	4,980	(NA)	28,290
November	1,126	54,719	25,694	5,113	(NA)	28,362
October	1,258	58,866	31,679	5,575	(NA)	28,157
September	1,219	61,129	34,910	5,184	(NA)	27,098
August	1,154	64,010	42,327	5,642	(NA)	27,466
July	1,168	66,525	41,618	5,109	(NA)	26,262
June	1,145	59,501	36,621	5,536	(NA)	25,704
May	1,204	58,059	31,487	5,584	(NA)	27,913
April	1,175	55,953	27,709	5,797	(NA)	27,239
March	1,266	58,589	25,417	5,808	(NA)	27,715
February	1,165	54,318	21,768	5,195	(NA)	25,244
January	1,289	55,923	23,371	5,567	(NA)	26,165

(NA) Not available.

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	JANUARY 1971 QUANTITY PRODUCED	DECEMBER 1970 QUANTITY PRODUCED	JANUAF 197(QUANTI PRODU(
2813200	ACETYLENE (1).	MIL.CU.FT.	961	1 073	1 :
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	436	(NA)	(N
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	128	(NA)	(N
	PRODUCED FOR CONSUMPTION IN THIS PLANT. . . .	DO	397	(NA)	(N
2813415	ARGON, HIGH PURITY	DO	226	246	2
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	226	(NA)	(N
	PRODUCED FOR PIPELINE SHIPMENT.	DO	-	(NA)	(N
	PRODUCED FOR CONSUMPTION IN THIS PLANT. . . .	DO	-	(NA)	(N
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2).	S.TONS	61 941	57 456	53 3
2813331	SOLID (DRY ICE)	DO	18 285	20 488	20 3
2813420	HYDROGEN, TOTAL (3).	MIL.CU.FT.	4 641	4 970	4 8
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	573	(NA)	(N
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	LIQUID PRODUCED FOR GOVERNMENT USE.	DO	151	(NA)	(N
	PRODUCED FOR PIPELINE SHIPMENT.	DO	945	(NA)	(N
	PRODUCED FOR CONSUMPTION IN THIS PLANT. . . .	DO	2 972	(NA)	(N
2813440	NITROGEN, TOTAL (4).	DO	13 881	(NA)	(N
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT.	DO	358	(NA)	(N
	PRODUCED FOR PIPELINE SHIPMENT	DO	8 295	(NA)	(N
	PRODUCED FOR CONSUMPTION IN THIS PLANT . .	DO	1 037	(NA)	(N
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT.	DO	3 540	(NA)	(N
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS.	DO	r602	(NA)	(N
	PRODUCED FOR CONSUMPTION IN THIS PLANT . .	DO	49	(NA)	(N
2813450	OXYGEN, TOTAL.	DO	27 387	26 394	26 0
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT.	DO	253	(NA)	(N.
	PRODUCED FOR PIPELINE SHIPMENT	DO	20 461	(NA)	(N.
	PRODUCED FOR CONSUMPTION IN THIS PLANT . .	DO	2 427	(NA)	(N.
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT.	DO	2 817	(NA)	(N.
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS.	DO	1 429	(NA)	(N.
	PRODUCED FOR CONSUMPTION IN THIS PLANT . .	DO			

(NA) NOT AVAILABLE. - REPRESENTS ZERO.

rREVISED BY 5 PERCENT OR MORE FROM PREVIOUSLY PUBLISHED FIGURES.

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

(2) EXCLUDES PRODUCTION OF LIQUID AND GAS CO_2 CONVERTED TO AND REPORTED AS DRY ICE AND ALSO AMOUNTS CONVERTED FROM PURE CO_2 (LIQUID OR SOLID) PURCHASED OR RECEIVED FROM OTHER PLANTS. ALSO EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN PLANTS MANUFACTURING SODA ASH OR UREA.

(3) EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN THE MANUFACTURE OF MENTANOL AND AMMONIA, BUT INCLUDES AN UNSPECIFIED AMOUNT OF HYDROGEN PRODUCED FOR SALE OR INTERPLANT TRANSFER TO PLANTS CONSUMING THIS GAS IN THE PRODUCTION OF AMMONIA. ALSO EXCLUDES AMOUNTS OF HYDROGEN PRODUCED IN PETROLEUM REFINERIES FOR CAPTIVE USE. HOWEVER, OF THE TOTAL SHOWN FOR LOWER PURITY HYDROGEN PRIOR TO 1969, 70 TO 75 PERCENT WAS ACCOUNTED FOR BY PETROLEUM REFINERS WITH CAPTIVE HYDROGEN PRODUCTION. NOT ALL SUCH PETROLEUM REFINERIES WERE CANVASSED IN THIS SURVEY.

(4) EXCLUDES AMOUNTS PRODUCED AND USED IN THE MANUFACTURE OF AMMONIA AND AMMONIA DERIVATIVES.

(5) IMPUTATION RATE EXCEEDS 25 PERCENT.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual monthly movements for nonrespondents may or may not closely agree with the imputed movements. The probable range of difference between the actual and imputed figures is unknown. The degree of uncertainty regarding the accuracy of the data however, increases as the percentage of imputation increases. Figures with high imputation rates, therefore, should be used with caution.

Statistics for previous months may be revised, due to receipt of corrected data from respondents, including late reports for which estimates were made, and other corrections. Figures which were revised significantly are indicated by footnotes.

The data are not adjusted for seasonal variation or number of working days.

RELATED REPORTS

Monthly Current Industrial Report, Inorganic Chemicals, Series M28A, includes production and stock data for specified inorganic chemicals. Monthly CIR report, Inorganic Fertilizer Materials and Related Acids, Series M28B, includes production and stock data for ammonia and ammonia compounds, phosphatic fertilizers, and sulfuric acid.

An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

CURRENT INDUSTRIAL REPORTS
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Industrial Gases

February 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

FOR RELEASE: April 30, 1971

SERIES: M28C(71)-2

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Industrial Gases: 1969 to 1971**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen, high and low purity (99.5-100%) (Mil. cu. ft.)	Nitrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Oxygen, high and low purity (99.5-100%) (Mil. cu. ft.)
1971						
February	1,019	61,881	17,048	4,136	12,312	25,890
January	953	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,102	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
August	1,124	73,394	33,222	4,939	(NA)	25,604
July	1,214	69,544	34,621	4,764	(NA)	26,198
June	1,220	68,349	31,993	4,972	(NA)	26,496
May	1,275	77,928	31,787	5,001	(NA)	27,261
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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	FEBRUARY 1971 QUANTITY PRODUCED	JANUARY 1971 QUANTITY PRODUCED	FEBRUARY 1970 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT.	1 027	968	1 254
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	480	450	(NA)
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	124	123	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	423	395	(NA)
2813415	ARGON, HIGH PURITY	DO	224	226	242
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	224	226	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	(NA)
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	61 887	61 941	52 850
2813331	SOLID (DRY ICE)	DO	17 048	18 259	27 279
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT.	4 136	r4 390	4 644
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO			
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO	419	r506	(NA)
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	914	984	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	2 803	2 900	(NA)
2813440	NITROGEN, TOTAL (4)	DO	12 521	r13 067	(NA)
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	187	r186	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 174	r7 461	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 027	1 054	(NA)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	3 696	r3 896	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	352	r386	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	85	84	(NA)
2813450	OXYGEN, TOTAL	DO	26 868	27 473	25 161
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	253	256	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	19 335	19 951	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	2 995	r3 066	(NA)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	2 844	2 910	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 441	r1 290	(NA)

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Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

CURRENT INDUSTRIAL REPORTS

Industrial Gases

March 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

FOR RELEASE: May 24, 1971 **SERIES: M28C(71)-3**

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Table 1. **Summary of Production of Principal Industrial Gases: 1969 to 1971**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen, high and low purity (99.5-100%) (Mil. cu. ft.)	Nitrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Oxygen, high and low purity (99.5-100%) (Mil. cu. ft.)
1971						
March	960	65,150	20,072	4,685	13,815	29,160
February	1,047	63,735	17,048	4,257	12,496	26,194
January	953	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,102	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	MARCH 1971 QUANTITY PRODUCED	FEBRUARY 1971 QUANTITY PRODUCED	MARCH 1970 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	960	1 047	1 306
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	495	502	(NA)
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	134	122	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	331	423	(NA)
2813415	ARGON, HIGH PURITY	DO	262	224	310
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	262	224	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	(NA)
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	65 150	63 735	67 224
2813331	SOLID (DRY ICE)	DO	20 072	17 048	29 227
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 685	4 257	4 933
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	549	r510	(NA)
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1 060	945	(NA)
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 076	2 802	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN, TOTAL (4)	DO	13 815	12 499	(NA)
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	201	186	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 822	7 174	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 077	1 020	(NA)
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 334	3 685	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	292	352	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	89	82	(NA)
2813450	OXYGEN, TOTAL	DO	29 160	26 194	27 052
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	322	252	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	21 543	18 811	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	2 379	2 879	(NA)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	3 496	2 823	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 420	1 429	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			

(NA) NOT AVAILABLE. - REPRESENTS ZERO.

rREVISED BY 5 PERCENT OR MORE FROM PREVIOUSLY PUBLISHED FIGURES.

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

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(3) EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN THE MANUFACTURE OF METHANOL AND AMMONIA, BUT INCLUDES AN UNSPECIFIED AMOUNT OF HYDROGEN PRODUCED FOR SALE OR INTERPLANT TRANSFER TO PLANTS CONSUMING THIS GAS IN THE PRODUCTION OF AMMONIA. ALSO EXCLUDES AMOUNTS OF HYDROGEN PRODUCED IN PETROLEUM REFINERIES FOR CAPTIVE USE. HOWEVER, OF THE TOTAL SHOWN FOR LOWER PURITY HYDROGEN PRIOR TO 1969, 70 TO 75 PERCENT WAS ACCOUNTED FOR BY PETROLEUM REFINERS WITH CAPTIVE HYDROGEN PRODUCTION. NOT ALL SUCH PETROLEUM REFINERIES WERE CANVASSED IN THIS SURVEY.

(4) EXCLUDES AMOUNTS PRODUCED AND USED IN THE MANUFACTURE OF AMMONIA AND AMMONIA DERIVATIVES.

(5) IMPUTATION RATE EXCEEDS 25 PERCENT.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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CURRENT INDUSTRIAL REPORTS

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Industrial Gases

April 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

FOR RELEASE: June 24, 1971

SERIES: M28C(71)-4

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Industrial Gases: 1969 to 1971**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Nitrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Oxygen, high and low purity (99.5-100%) (Mil. cu. ft.)
1971						
April	1,237	71,771	23,319	4,642	12,790	28,542
March	1,220	r76,844	20,355	4,688	13,650	29,668
February	1,047	63,735	17,048	4,257	12,496	26,194
January	953	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,102	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
August	1,124	73,394	33,222	4,939	(NA)	25,604
July	1,214	69,544	34,621	4,764	(NA)	26,198
June	1,220	68,349	31,993	4,972	(NA)	26,496
May	1,275	77,928	31,787	5,001	(NA)	27,261
April	1,319	72,872	29,409	4,951	(NA)	26,734
March	1,306	67,224	29,227	4,933	(NA)	27,052
February	1,254	52,850	27,279	4,644	(NA)	25,161
January	1,228	53,370	20,323	4,824	(NA)	26,022
1969						
December	1,217	52,457	26,675	4,980	(NA)	28,290
November	1,126	54,719	25,694	5,113	(NA)	28,362
October	1,258	58,866	31,679	5,575	(NA)	28,157
September	1,219	61,129	34,910	5,184	(NA)	27,098
August	1,154	64,010	42,327	5,642	(NA)	27,466
July	1,168	66,525	41,618	5,109	(NA)	26,262
June	1,145	59,501	36,621	5,536	(NA)	25,704
May	1,204	58,059	31,487	5,584	(NA)	27,913
April	1,175	55,953	27,709	5,797	(NA)	27,239

(NA) Not available.
rRevised by 5 percent or more from previously published figures.

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	APRIL 1971 QUANTITY PRODUCED	MARCH 1971 QUANTITY PRODUCED	APRIL 1970 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	1 237	1 220	1 319
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	782	r755	(NA)
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	120	134	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	334	331	(NA)
2813415	ARGON, HIGH PURITY	DO	247	262	253
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	247	262	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	(NA)
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	71 771	r76 844	72 872
2813331	SOLID (DRY ICE)	DO	23 319	20 355	29 409
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 642	4 688	4 951
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	653	549	(NA)
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	984	1 039	(NA)
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 005	3 100	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)
2813440	NITROGEN, TOTAL (4)	DO	12 790	13 650	(NA)
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	198	201	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 390	7 665	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	873	1 087	(NA)
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	3 920	4 316	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	5321	292	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	88	89	(NA)
2813450	OXYGEN, TOTAL	DO	28 542	29 668	26 734
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	322	322	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	19 794	21 047	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 743	r3 322	(NA)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	53 408	3 560	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 275	1 417	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)

(NA) NOT AVAILABLE
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DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

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UNITED STATES
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PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

May 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

FOR RELEASE: July 27, 1971

SERIES: M28C(71)-5

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Table 1. **Summary of Production of Principal Industrial Gases: 1969 to 1971**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Nitrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Oxygen, high and low purity (99.5-100%) (Mil. cu. ft.)
1971						
May	1,350	r69,578	r28,867	4,581	r13,849	r28,621
April	1,237	r74,561	r27,165	4,519	r13,164	r27,634
March	1,220	76,844	20,355	4,688	13,650	29,668
February	1,047	63,735	17,048	4,257	12,496	26,194
January	953	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,102	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
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2813200	ACETYLENE (1)	MIL.CU.FT	1 350	1 237	1 275
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	866	782	(NA)
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	114	121	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	370	334	(NA)
2813415	ARGON, HIGH PURITY	DO	253	237	253
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	253	237	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	(NA)
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	69 578	74 561	77 743
2813331	SOLID (DRY ICE)	DO	28 867	27 165	31 787
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 581	4 519	5 001
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	592	r571	(NA)
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	972	r943	(NA)
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 017	3 005	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)
2813440	NITROGEN, TOTAL (4)	DO	13 849	r13 164	(NA)
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	253	r395	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 700	7 407	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 013	872	(NA)
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 420	4 034	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	322	r369	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	141	87	(NA)
2813450	OXYGEN, TOTAL	DO	28 621	27 634	157 340
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	303	313	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	20 464	19 670	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 428	r3 024	(NA)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	3 230	r3 276	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 196	r1 351	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)

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UNITED STATES
DEPARTMENT OF
COMMERCE
PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

June 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

FOR RELEASE: August 26, 1971 **SERIES: M28C(71)-6**

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

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Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Nitrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Oxygen, high and low purity (99.5-100%) (Mil. cu. ft.)
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June	1,318	81,373	35,136	4,571	13,634	26,835
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April	1,237	r74,561	r27,165	4,519	r13,164	r27,634
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February	1,047	63,735	17,048	4,257	12,496	26,194
January	953	61,941	18,259	4,390	12,865	26,612
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June	1,145	59,501	36,621	5,536	(NA)	25,704

(NA) Not available.
rRevised by 5 percent or more from previously published figures.

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	JUNE 1971 QUANTITY PRODUCED	MAY 1971 QUANTITY PRODUCED	JUNE 1970 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	1 318	1 350	1 220
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	789	865	(NA)
	PRODUCED FOR COMPRESSION; INCLUDING CYLINDER AND PIPELINE	DO	112	115	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	417	370	(NA)
2813415	ARGON; HIGH PURITY	DO	230	254	246
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	230	254	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	(NA)
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	81 373	71 143	68 349
2813331	SOLID (DRY ICE)	DO	35 136	29 227	31 993
2813420	HYDROGEN; TOTAL (3)	MIL.CU.FT	4 571	4 703	4 972
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	495	573	(NA)
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	1 010	1 009	(NA)
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 066	3 121	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)
2813440	NITROGEN; TOTAL (4)	DO	13 634	13 860	(NA)
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	267	r266	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 568	7 699	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	972	1 012	(NA)
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 310	4 420	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	369	322	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	148	141	(NA)
2813450	OXYGEN; TOTAL	DO	26 835	28 934	151 514
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	235	303	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	19 216	20 463	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 114	r3 656	(NA)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	2 907	3 244	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 363	1 268	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)

(NA) NOT AVAILABLE
rREVISED BY 5 PERCENT OR MORE FROM PREVIOUSLY PUBLISHED FIGURES.

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS; SHIPYARDS; AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

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(4) EXCLUDES AMOUNTS PRODUCED AND USED IN THE MANUFACTURE OF AMMONIA AND AMMONIA DERIVATIVES.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

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CURRENT INDUSTRIAL REPORTS

Industrial Gases

July 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

FOR RELEASE: September 30, 1971

SERIES: M28C(71)-7

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. Summary of Production of Principal Industrial Gases: 1969 to 1971

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Nitrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Oxygen, high and low purity (99.5-100%) (Mil. cu. ft.)
1971						
July	1,186	79,435	41,354	4,501	14,174	26,263
June	1,317	r77,786	r39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	28,934
April	1,237	74,561	27,165	4,519	13,164	27,634
March	1,220	76,844	20,355	4,688	13,650	29,668
February	1,047	63,735	17,048	4,257	12,496	26,194
January	953	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,102	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
August	1,124	73,394	33,222	4,939	(NA)	25,604
July	1,214	69,544	34,621	4,764	(NA)	26,198
June	1,220	68,349	31,993	4,972	(NA)	26,496
May	1,275	77,928	31,787	5,001	(NA)	27,261
April	1,319	72,872	29,409	4,951	(NA)	26,734
March	1,306	67,224	29,227	4,933	(NA)	27,052
February	1,254	52,850	27,279	4,644	(NA)	25,161
January	1,228	53,370	20,323	4,824	(NA)	26,022
1969						
December	1,217	52,457	26,675	4,980	(NA)	28,290
November	1,126	54,719	25,694	5,113	(NA)	28,362
October	1,258	58,866	31,679	5,575	(NA)	28,157
September	1,219	61,129	34,910	5 184	(NA)	27,098
August	1,154	64,010	42,327	5,642	(NA)	27,466
July	1,168	66,525	41,618	5,109	(NA)	26,262

(NA) Not available.
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SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	JULY 1971 QUANTITY PRODUCED	JUNE 1971 QUANTITY PRODUCED	JULY 1970 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	1 186	1 317	1 214
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	690	789	(NA)
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	102	111	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	394	417	(NA)
2813415	ARGON, HIGH PURITY	DO	255	230	238
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	255	230	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	(NA)
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	79 435	r77 786	69 544
2813331	SOLID (DRY ICE)	DO	41 354	r39 250	34 621
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 501	4 603	2 744
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	492	r554	(NA)
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	926	1 010	(NA)
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 083	3 039	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)
2813440	NITROGEN, TOTAL (4)	DO	14 174	14 472	(NA)
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	229	267	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 203	7 572	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	981	972	(NA)
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 621	4 423	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 140	1 238	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)
2813450	OXYGEN, TOTAL	DO	26 263	27 344	49 422
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	18 252	19 281	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO			(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 697	r3 720	(NA)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	3 241	2 908	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 073	1 435	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)

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UNITED STATES
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CURRENT INDUSTRIAL REPORTS

Industrial Gases

August 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

October 1971

SERIES: M28C(71)-8

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Industrial Gases: 1969 to 1971**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dixoide liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Nitrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Oxygen, high and low purity (99.5-100%) (Mil. cu. ft.)
1971						
August	1,276	96,825	33,810	4,607	13,628	21,217
July	1,185	r87,505	r32,651	4,485	14,152	26,322
June	1,317	r77,786	r39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	28,934
April	1,237	74,561	27,165	4,519	13,164	27,634
March	1,220	76,844	20,355	4,688	13,650	29,668
February	1,047	63,735	17,048	4,257	12,496	26,194
January	953	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,102	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
August	1,124	73,394	33,222	4,939	(NA)	25,604
July	1,214	69,544	34,621	4,764	(NA)	26,198
June	1,220	68,349	31,993	4,972	(NA)	26,496
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February	1,254	52,850	27,279	4,644	(NA)	25,161
January	1,228	53,370	20,323	4,824	(NA)	26,022
1969						
December	1,217	52,457	26,675	4,980	(NA)	28,290
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October	1,258	58,866	31,679	5,575	(NA)	28,157
September	1,219	61,129	34,910	5,184	(NA)	27,098
August	1,154	64,010	42,327	5,642	(NA)	27,466

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SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	AUGUST 1971 QUANTITY PRODUCED	JULY 1971 QUANTITY PRODUCED	AUGUST 1970 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	1 276	1 185	1 124
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	777	687	(NA)
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	109	104	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	390	394	(NA)
2813415	ARGON, HIGH PURITY	DO	227	255	235
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	227	255	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	(NA)
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	96 825	r87 505	73 394
2813331	SOLID (DRY ICE)	DO	33 810	r32 651	33 222
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 607	4 485	4 939
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	476	434	(NA)
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	901	926	(NA)
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 230	3 125	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)
2813440	NITROGEN, TOTAL (4)	DO	13 628	14 152	(NA)
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	174	222	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 018	7 204	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 048	980	(NA)
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 575	4 626	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	813	1 120	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)
2813450	OXYGEN, TOTAL	DO	21 217	26 322	131 846
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	13 675	18 311	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO			(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 660	3 697	(NA)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	3 019	3 335	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	863	r979	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)

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CURRENT INDUSTRIAL REPORTS

Industrial Gases

September 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

December 1971

SERIES: M28C(71)-9

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Industrial Gases: 1969 to 1971**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Nitrogen high and low purity (99.5-100%) (Mil. cu. ft.)	Oxygen, high and low purity (99.5-100%) (Mil. cu. ft.)
1971						
September	1,020	89,167	30,524	4,328	14,209	23,555
August	r1,038	96,829	33,810	4,615	13,867	20,740
July	1,185	87,505	32,651	4,485	14,152	26,322
June	1,317	r77,786	r39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	28,934
April	1,237	74,561	27,165	4,519	13,164	27,634
March	1,220	76,844	20,355	4,688	13,650	29,668
February	1,047	63,735	17,048	4,257	12,496	26,194
January	953	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,102	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
August	1,124	73,394	33,222	4,939	(NA)	25,604
July	1,214	69,544	34,621	4,764	(NA)	26,198
June	1,220	68,349	31,993	4,972	(NA)	26,496
May	1,275	77,928	31,787	5,001	(NA)	27,261
April	1,319	72,872	29,409	4,951	(NA)	26,734
March	1,306	67,224	29,227	4,933	(NA)	27,052
February	1,254	52,850	27,279	4,644	(NA)	25,161
January	1,228	53,370	20,323	4,824	(NA)	26,022
1969						
December	1,217	52,457	26,675	4,980	(NA)	28,290
November	1,126	54,719	25,694	5,113	(NA)	28,362
October	1,258	58,866	31,679	5,575	(NA)	28,157
September	1,219	61,129	34,910	5,184	(NA)	27,098

(NA) Not available.
r Revised by 5 percent or more from previously published figures.

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	SEPTEMBER 1971 QUANTITY PRODUCED	AUGUST 1971 QUANTITY PRODUCED	SEPTEMBER 1970 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	1 020	r1 038	1 155
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	513	r537	(NA)
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	116	111	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	391	390	(NA)
2813415	ARGON, HIGH PURITY	DO	258	227	259
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	258	227	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	(NA)
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	89 167	96 829	74 024
2813331	SOLID (DRY ICE)	DO	30 524	33 810	29 465
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 328	4 615	4 816
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	412	475	(NA)
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	739	901	(NA)
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 177	3 239	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)
2813440	NITROGEN, TOTAL (4)	DO	14 209	13 867	(NA)
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	187	174	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 075	7 199	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	963	1 048	(NA)
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 645	4 632	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	574	547	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)
2813450	OXYGEN, TOTAL	DO	23 555	20 740	25 688
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	15 536	13 152	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO			(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 710	3 659	833
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	3 310	3 045	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	978	863	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)

(NA) NOT AVAILABLE
rREVISED BY 5 PERCENT OR MORE FROM PREVIOUSLY PUBLISHED FIGURES.

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

(2) EXCLUDES PRODUCTION OF LIQUID AND GAS CO2 CONVERTED TO AND REPORTED AS DRY ICE AND ALSO AMOUNTS CONVERTED FROM PURE CO2 (LIQUID OR SOLID) PURCHASED OR RECEIVED FROM OTHER PLANTS. ALSO EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN PLANTS MANUFACTURING SODA ASH OR UREA.

(3) EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN THE MANUFACTURE OF METHANOL AND AMMONIA, BUT INCLUDES AN UNSPECIFIED AMOUNT OF HYDROGEN PRODUCED FOR SALE OR INTERPLANT TRANSFER TO PLANTS CONSUMING THIS GAS IN THE PRODUCTION OF AMMONIA. ALSO EXCLUDES AMOUNTS OF HYDROGEN PRODUCED IN PETROLEUM REFINERIES FOR CAPTIVE USE. HOWEVER, OF THE TOTAL SHOWN FOR LOWER PURITY HYDROGEN PRIOR TO 1969, 70 TO 75 PERCENT WAS ACCOUNTED FOR BY PETROLEUM REFINERS WITH CAPTIVE HYDROGEN PRODUCTION. NOT ALL SUCH PETROLEUM REFINERIES WERE CANVASSED IN THIS SURVEY.

(4) EXCLUDES AMOUNTS PRODUCED AND USED IN THE MANUFACTURE OF AMMONIA AND AMMONIA DERIVATIVES.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

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Statistics for previous months may be revised, due to receipt of corrected data from respondents, including late reports for which estimates were made, and other corrections. Figures which were revised significantly are indicated by footnotes.

The data are not adjusted for seasonal variation or number of working days.

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Monthly Current Industrial Report, Inorganic Chemicals, Series M28A, includes production and stock data for specified inorganic chemicals. Monthly CIR report, Inorganic Fertilizer Materials and Related Acids, Series M28B, includes production and stock data for ammonia and ammonia compounds, phosphatic fertilizers, and sulfuric acid.

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EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

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CURRENT INDUSTRIAL REPORTS

Industrial Gases

October 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

January 1972

SERIES: M28C(71)-10

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Industrial Gases: 1969 to 1971**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (100%) (Mil. cu. ft.)	Nitrogen high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1971						
October	1,087	r84,593	r28,984	5,139	14,396	25,049
September	1,018	r84,156	r32,417	4,355	13,437	23,565
August	1,038	96,829	33,810	4,615	13,867	20,740
July	1,185	87,505	32,651	4,485	14,152	26,322
June	1,317	77,786	39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	28,934
April	1,237	74,561	27,165	4,519	13,164	27,634
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February	1,047	63,735	17,048	4,257	12,496	26,194
January	953	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,102	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
August	1,124	73,394	33,222	4,939	(NA)	25,604
July	1,214	69,544	34,621	4,764	(NA)	26,198
June	1,220	68,349	31,993	4,972	(NA)	26,496
May	1,275	77,928	31,787	5,001	(NA)	27,261
April	1,319	72,872	29,409	4,951	(NA)	27,734
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February	1,254	52,850	27,279	4,644	(NA)	25,161
January	1,228	53,370	20,323	4,824	(NA)	26,022
1969						
December	1,217	52,457	26,675	4,980	(NA)	28,290
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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	OCTOBER 1971 QUANTITY PRODUCED	SEPTEMBER 1971 QUANTITY PRODUCED	OCTOBER 1970 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	1 087	1 018	1 112
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	574	513	(NA)
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	122	115	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	391	390	(NA)
2813415	ARGON, HIGH PURITY	DO	289	258	219
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	289	258	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	(NA)
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	84 593	r84 156	63 418
2813331	SOLID (DRY ICE)	DO	28 984	r32 417	24 523
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	5 139	4 355	5 034
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	468	412	(NA)
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	1 121	738	(NA)
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 550	3 205	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)
2813440	NITROGEN, TOTAL (4)	DO	14 396	13 437	(NA)
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	239	186	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 415	7 070	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 053	962	(NA)
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5 059	4 645	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	630	574	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)
2813450	OXYGEN, TOTAL	DO	25 049	23 565	150 961
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	15 536	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	16 804		(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 360	3 713	(NA)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	54 060	3 338	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	825	978	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			(NA)

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(5) OXYGEN GAS, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT COMBINED WITH OXYGEN LIQUID, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT.

DESCRIPTION OF SURVEY

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CURRENT INDUSTRIAL REPORTS

Industrial Gases

November 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

January 1972

SERIES: M28C(71)-11

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Table 1. **Summary of Production of Principal Industrial Gases: 1969 to 1971**

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1971						
November	1,119	79,128	r23,700	4,687	13,821	24,340
October	1,055	84,593	r27,178	5,139	14,273	24,926
September	1,018	84,156	32,417	4,355	13,437	23,565
August	1,038	96,829	33,810	4,615	13,867	20,740
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2813200	ACETYLENE (1)	MIL.CU.FT	1 119	1 055	1 102
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	574	574	(NA)
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	123	121	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	422	r360	(NA)
2813415	ARGON, HIGH PURITY	DO	271	287	241
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	271	287	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	(NA)
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	79 128	84 593	56 432
2813331	SOLID (DRY ICE)	DO	23 700	27 178	20 850
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 687	5 139	4 752
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	484	468	(NA)
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	970	1 121	(NA)
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 233	3 550	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN, TOTAL (4)	DO	13 821	14 273	(NA)
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	236	239	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 492	7 415	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 024	1 014	
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 534	5 044	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	535	r561	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813450	OXYGEN, TOTAL	DO	24 340	24 926	125 706
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	(5)	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	16 106	r16 300	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 281	3 182	(NA)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	5 4 036	5 4 577	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	917	r867	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			

(NA) NOT AVAILABLE
rREVISED BY 5 PERCENT OR MORE FROM PREVIOUSLY PUBLISHED FIGURES.

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

(2) EXCLUDES PRODUCTION OF LIQUID AND GAS CO2 CONVERTED TO AND REPORTED AS DRY ICE AND ALSO AMOUNTS CONVERTED FROM PURE CO2 (LIQUID OR SOLID) PURCHASED OR RECEIVED FROM OTHER PLANTS. ALSO EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN PLANTS MANUFACTURING SODA ASH OR UREA.

(3) EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN THE MANUFACTURE OF METHANOL AND AMMONIA, BUT INCLUDES AN UNSPECIFIED AMOUNT OF HYDROGEN PRODUCED FOR SALE OR INTERPLANT TRANSFER TO PLANTS CONSUMING THIS GAS IN THE PRODUCTION OF AMMONIA. ALSO EXCLUDES AMOUNTS OF HYDROGEN PRODUCED IN PETROLEUM REFINERIES FOR CAPTIVE USE. HOWEVER, OF THE TOTAL SHOWN FOR LOWER PURITY HYDROGEN PRIOR TO 1969, 70 TO 75 PERCENT WAS ACCOUNTED FOR BY PETROLEUM REFINERS WITH CAPTIVE HYDROGEN PRODUCTION. NOT ALL SUCH PETROLEUM REFINERIES WERE CANVASSED IN THIS SURVEY.

(4) EXCLUDES AMOUNTS PRODUCED AND USED IN THE MANUFACTURE OF AMMONIA AND AMMONIA DERIVATIVES.

(5) OXYGEN GAS, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT COMBINED WITH OXYGEN LIQUID, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases-Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual monthly movements for nonrespondents may or may not closely agree with the imputed movements. The probable range of difference between the actual and imputed figures is unknown. The degree of uncertainty regarding the accuracy of the data however, increases as the percentage of imputation increases. Figures with high imputation rates, therefore, should be used with caution.

Statistics for previous months may be revised, due to receipt of corrected data from respondents, including late reports for which estimates were made, and other corrections. Figures which were revised significantly are indicated by footnotes.

The data are not adjusted for seasonal variation or number of working days.

RELATED REPORTS

Monthly Current Industrial Report, Inorganic Chemicals, Series M28A, includes production and stock data for specified inorganic chemicals. Monthly CIR report, Inorganic Fertilizer Materials and Related Acids, Series M28B, includes production and stock data for ammonia and ammonia compounds, phosphatic fertilizers, and sulfuric acid.

An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

Units of measure--All figures reported in million cubic feet at 70°F and 1 atmosphere pressure, unless otherwise specified.

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CURRENT INDUSTRIAL REPORTS

Industrial Gases

December 1971

U.S. DEPARTMENT OF COMMERCE / Bureau of the Census

February 1972

SERIES: M28C(71)-12

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Industrial Gases: 1969 to 1971**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (95-100%) (Mil. cu. ft.)	Nitrogen high and low purity (95-100%) (Mil. cu. ft.)	Oxygen, high and low purity (95-100%) Mil. cu. ft.)
1971						
December	1,092	80,109	21,584	4,771	14,277	26,277
November	1,119	79,128	23,723	4,613	13,717	24,342
October	1,055	84,593	27,178	5,139	14,273	24,926
September	1,018	84,156	32,417	4,355	13,437	23,565
August	1,038	96,829	33,810	4,615	13,867	20,740
July	1,185	87,505	32,651	4,485	14,152	26,322
June	1,317	77,786	39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	28,934
April	1,237	74,561	27,165	4,519	13,164	27,634
March	1,220	76,844	20,355	4,688	13,650	29,668
February	1,047	63,735	17,048	4,257	12,496	26,194
January	953	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,102	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
August	1,124	73,394	33,222	4,939	(NA)	25,604
July	1,214	69,544	34,621	4,764	(NA)	26,198
June	1,220	68,349	31,993	4,972	(NA)	26,496
May	1,275	77,928	31,787	5,001	(NA)	27,261
April	1,319	72,872	29,409	4,951	(NA)	27,734
March	1,306	67,224	29,227	4,933	(NA)	27,052
February	1,254	52,850	27,279	4,644	(NA)	25,161
January	1,228	53,370	20,323	4,824	(NA)	26,022
1969						
December	1,217	52,457	26,675	4,980	(NA)	28,290

(NA) Not available.

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy--$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	DECEMBER 1971 QUANTITY PRODUCED	NOVEMBER 1971 QUANTITY PRODUCED	DECEMBER 1970 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	1 092	1 119	1 073
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	564	574	(NA)
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	125	123	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	403	422	(NA)
2813415	ARGON, HIGH PURITY	DO	284	273	246
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	284	273	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	(NA)
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	80 109	79 128	57 456
2813331	SOLID (DRY ICE)	DO	21 584	23 723	20 488
2813420	HYDROGEN,TOTAL (3)	MIL.CU.FT	4 771	4 613	4 970
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	446	484	(NA)
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	920	r896	(NA)
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 405	3 233	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN, TOTAL (4)	DO	14 277	13 717	(NA)
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	260	237	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 906	7 492	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 041	1 023	(NA)
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 520	4 415	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	550	550	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813450	OXYGEN, TOTAL	DO	26 277	24 342	26 394
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	(5)	(NA)
	PRODUCED FOR PIPELINE SHIPMENT	DO	17 765	16 604	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 816	3 281	(NA)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	5 3 797	5 3 583	(NA)
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	899	874	(NA)
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			

(NA) NOT AVAILABLE
r REVISED BY 5 PERCENT OR MORE FROM PREVIOUSLY PUBLISHED FIGURES.
(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.
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(3) EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN THE MANUFACTURE OF METHANOL AND AMMONIA, BUT INCLUDES AN UNSPECIFIED AMOUNT OF HYDROGEN PRODUCED FOR SALE OR INTERPLANT TRANSFER TO PLANTS CONSUMING THIS GAS IN THE PRODUCTION OF AMMONIA. ALSO EXCLUDES AMOUNTS OF HYDROGEN PRODUCED IN PETROLEUM REFINERIES FOR CAPTIVE USE. HOWEVER, OF THE TOTAL SHOWN FOR LOWER PURITY HYDROGEN PRIOR TO 1969, 70 TO 75 PERCENT WAS ACCOUNTED FOR BY PETROLEUM REFINERS WITH CAPTIVE HYDROGEN PRODUCTION. NOT ALL SUCH PETROLEUM REFINERIES WERE CANVASSED IN THIS SURVEY.
(4) EXCLUDES AMOUNTS PRODUCED AND USED IN THE MANUFACTURE OF AMMONIA AND AMMONIA DERIVATIVES.
(5) IMPUTATION RATE EXCEEDS 25 PERCENT.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases-Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

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RELATED REPORTS

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An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

Units of measure--All figures reported in million cubic feet at 70°F and 1 atmosphere pressure, unless otherwise specified.

CURRENT INDUSTRIAL REPORTS

Industrial Gases

Summary for 1971

(Preliminary)

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

April 1972

SERIES: M28C(71)-13

Annual data for 1971 and 1970 shown in this release are a compilation of the monthly figures which have been appearing in this series. The figures for 1971 should be considered as preliminary and subject to revisions based on information furnished on Form MA-28E.2, Annual Report on Shipments and Production of Industrial Gases.

The statistics presented in the accompanying tables are for primary production, covering quantities produced for further processing in the same plant, for intra-company transfer, and for sale. They provide an up-to-date measure of activity in the inorganic field but do not necessarily indicate amounts entering the market. In some cases figures are included for material produced "in process" as an intermediate to the end products.

ACKNOWLEDGMENTS--This report was prepared in the Industry Division under the direction of Lonnie M. Conner, Chief, Chemicals and Wood Products Branch. Reese R. Morgan, Chief, Chemicals, assisted by Doris W. Funk, was directly responsible for the review of the data and preparation of the report. Elmer S. Biles, Acting Chief of the Division, and Louis J. Owen, Acting Assistant Division Chief, of Commodity and Industry Programs, provided overall direction and coordination of this project.

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC code	Chemical and basis	Unit of measure	Production 1971	Production 1970
2813200	Acetylene (1)	.Mil.cu.ft.,	13,647	14,834
	Produced for pipeline shipment (excluding that shipped to be compressed	.....do.....	7,622	(NA)
	Produced for compression, including cylinder and pipeline	.....do.....	1,426	(NA)
	Produced for consumption in this plant	.....do.....	4,629	(NA)
2813415	Argon, high purity	.....do.....	3,014	2,742
	Produced for cylinder and bulk delivery shipment	.....do.....	3,014	(NA)
	Produced for pipeline shipment	.....do.....	-	(NA)
	Produced for consumption in this plant	.....do.....	-	(NA)
	Carbon dioxide:			
2813311	Liquid and gas (2)	S. tons.....	935,975	794,810
2813331	Solid (dry ice)	.....do.....	322,447	320,644
2813420	Hydrogen, total (3)	.Mil.cu.ft..	55,172	59,654
	Produced for cylinder and bulk delivery shipment	.....do.....	5,982	(NA)
	Liquid produced for conversion to gas	.....do.....		
	Produced for pipeline shipment	.....do.....	11,431	(NA)
	Produced for consumption in this plant	.....do.....	37,749	(NA)
	Liquid produced for government use	.....do.....		
2813440	Nitrogen, total (4)	.....do.....	164,441	(NA)
	Gas:			
	Produced for cylinder and bulk delivery shipment	.....do.....	2,822	(NA)
	Produced for pipeline shipment	.....do.....	89,264	(NA)
	Produced for consumption in this plant	.....do.....	12,088	(NA)
	Liquid:			
	Produced for cylinder and bulk delivery shipment	.....do.....	52,656	(NA)
	Produced for bulk shipment to pipelines or to other air separation plants	.....do.....	7,344	(NA)
	Produced for consumption in this plant	.....do.....		
2813450	Oxygen, total (4)	.....do.....	313,416	321,830
	Gas:			
	Produced for cylinder and bulk delivery shipment	.....do.....	(5)	(NA)
	Produced for pipeline shipment	.....do.....	(5)	(NA)
	Produced for consumption in this plant	.....do.....	41,015	(NA)
	Liquid:			
	Produced for cylinder and bulk delivery shipment	.....do.....	(5)	(NA)
	Produced for bulk shipment to pipelines or to other air separation plants	.....do.....	13,649	(NA)
	Produced for consumption in this plant	.....do.....		

(NA) Not available.

(1) Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators.

(2) Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plant manufacturing soda ash or urea.

(3) Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use.

(4) Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives.

(5) Due to these lines being combined in different ways for a number of months in the year, annual totals cannot be shown for these categories.

UNITED STATES
DEPARTMENT OF
COMMERCE
PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

1971

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

November 1972

SERIES: M28C(71)-14

Shipments of industrial gases by primary manufacturers in 1971 totaled $617 million, or about 3 percent less than the 1970 figure of $634 million. The 1971 total is composed of $98 million for acetylene; $38 million for carbon dioxide; and $480 million for the product grouping elemental gases and other industrial gases, n.e.c. Compared with 1970, the 1971 totals showed a 1 percent decrease for acetylene, an increase on 3 percent for carbon dioxide, and a decrease of 4 percent for other elemental gases.

Figures in this report exclude values for hydrocarbon gases, such as propane, butane and propylene, or halogenated hydrocarbons and cyclopropane, which are reported to the United States Tariff Commission, and for sulfur dioxide and chlorine, which are shown in the Current Industrial Reports, Series M28A(71)-14, Inorganic Chemicals and Gases.

The shipments values for some of the gases, particularly oxygen, reported by companies vary widely not only because of the conditions of sales, including delivery by pipeline or cylinder, but also because plant operations differ. The manufacturing and selling activities of some companies are centralized at the primary production site, while other companies sell or ship liquefied gases to other sites (filling stations or conversion units) where the products are changed in form, "packaged," and sold. The values reported for some sites thus include marketing activities and for other sites do not.

Figures showing the quantities shipped to other plants of the same company (interplant transfers) were not compiled separately and thus are unavailable. In evaluating these interplant transfers for inclusion in the totals, respondents were instructed to report values which would approximate the commercial selling value, f.o.b. plant, and not the cost of production or some other book price.

Beginning in 1971, respondents were requested to report production either by specific methods of shipment or consumption in the producing plants for selected elemental gases and acetylene. Data for hydrogen, nitrogen and oxygen include lower purity and high purity gas. Prior to 1971, lower purity gas was collected separately. Statistics for crude argon are collected separately. Special reporting instructions are also provided for carbon dioxide producers so that the chemical produced and shipped is reported only once, either in solid or liquid (including gaseous) form. Statistics exclude such activities as the liquefaction of purchased nitrogen. The quantities reported as produced exclude any information for gases used as fuel in

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producing plant, vented, or disposed of as waste. Other limitations of the statistics are indicated in footnotes appearing at the end of table 1.

In addition to the annual production statistics shown in table 1, monthly statistics for specified gases are shown in table 2. These monthly statistics supersede those which were released earlier in the monthly Current Industrial Reports, Series M28C, Industrial Gases, United States Production. Monthly and annual statistics have been issued beginning with January 1941. Geographic totals for specific gases are shown in tables 3 through 8. The geographic distribution of industrial gas plants by State is shown in table 9.

All figures included in this report are collected in thousand cubic feet, 70 F, at 1 atmosphere pressure, unless otherwise specified.

ACKNOWLEDGMENTS--This report was prepared in the Industry Division under the direction of Lonnie M. Conner, Chief for Chemicals, Wood Products, and Nonmetallic Minerals Branch. Doris W. Funk, Chief, Chemicals, assisted by John P. Govoni, was directly responsible for the review of the data and preparation of the report. Elmer S. Biles, Chief of the Division, and Louis J. Owen, Assistant Division Chief of Commodity and Industry Programs, provided overall direction and coordination to this project.

Table 1.--ANNUAL PRODUCTION AND SHIPMENTS OF INDUSTRIAL GASES: 1967 TO 1971

Code	Product	Unit of measure	Year	Quantity produced for all purposes	Total shipments including transfers quantity	Total shipments including transfers value ($1,000)
2813---	Industrial gases, total		1971	(X)	(X)	r 616,838
			1970	(X)	(X)	r [1]633,602
			1969	(X)	(X)	[1]623,114
			1968	(X)	(X)	[1]607,521
			1967	(X)	(X)	[1]572,313
2813200	Acetylene	Mil.cu.ft.	1971	[2]12,336	7,684	98,053
			1970	[2]14,834	8,926	98,952
			1969	[2]15,818	9,372	98,542
			1968	[2]15,071	8,151	89,025
			1967	[2]14,269	8,176	87,147
	Produced for pipeline shipment excluding that shipped to be compressed	...do....	1971	6,169	6,169	55,228
	Produced for compression, including cylinder and pipeline	...do....	1971	1,518	1,515	42,825
	Produced for consumption in this plant	...do....	1971	4,649	(X)	(X)
	Carbon dioxide, total	Short tons	1971	r 1,270,013	r 1,147,433	r 38,312
			1970	r 1,135,454	r 1,028,290	r 37,142
			1969	1,166,611	1,079,401	40,627
			1968	1,058,120	943,466	41,774
			1967	1,089,309	971,603	47,420
2813311	Liquid and gas	...do....	1971	r [3]954,656	832,566	20,720
			1970	r [3]814,810	r 710,743	r 19,467
			1969	[3]802,429	714,629	20,915
			1968	[3]684,014	575,945	22,491
			1967	[3]717,199	618,891	29,359
2813331	Solid (dry ice)	...do....	1971	315,357	314,867	17,590
			1970	320,644	317,547	17,675
			1969	364,182	364,772	19,712
			1968	374,106	367,521	19,283
			1967	372,110	352,712	18,061
28134--	Elemental gases and other industrial gases, n.e.c., total	.....	1971	(X)	(X)	480,473
			1970	(X)	(X)	497,508
			1969	(X)	(X)	483,945
			1968	(X)	(X)	476,722
			1967	(X)	(X)	437,746
2813415	Argon, high purity, total	Mil.cu.ft.	1971	3,009	2,986	29,149
			1970	2,742	2,741	39,140
			1969	2,597	2,596	38,659
			1968	2,114	2,113	33,162
			1967	1,912	1,910	25,499
	Produced for cylinder and bulk delivery shipment	...do....	1971	3,009	2,986	29,149
	Helium[4]	...do....	1971	r 4,565	r 447	(NA)
			1970	r 4,600	r 542	(NA)
			1969	r 4,662	r 670	(NA)
			1968	r 4,658	r 802	(NA)
			1967	r 4,691	r 867	(NA)
281342D	Hydrogen, total	...do....	1971	[5]55,639	17,460	33,521
			1970	[5]59,654	20,940	35,380
			1969	[5]64,821	25,456	38,101
			1968	[5]201,752	28,255	37,822
			1967	[5]158,539	27,666	39,131
	Produced for cylinder and bulk delivery shipment	...do....	1971	5,312	5,305	18,824
	Liquid produced for conversion to gas	...do....				
	Produced for pipeline shipment	...do....	1971	12,312	12,155	14,697
	Liquid produced for government use	...do....				
	Produced for consumption in this plant	...do....	1971	38,015	(X)	(X)
2813440	Nitrogen, total[6]	...do....	1971	[7]165,219	[7]148,453	[7]134,592
			1970	151,191	134,925	[8]123,032
			1969	132,691	118,305	[8]118,635
			1968	118,731	105,370	[8]114,777
			1967	103,933	91,941	[8]99,640
	Gas:					
	Produced for cylinder and bulk delivery shipment	...do....	1971	1,026	981	5,092
	Produced for pipeline shipment	...do....	1971	90,920	90,834	33,974
	Produced for consumption in this plant	...do....	1971	14,881	(X)	(X)

See footnotes at end of table.

Table 1.--ANNUAL PRODUCTION AND SHIPMENTS OF INDUSTRIAL GASES: 1967 TO 1971--Continued

Code	Product	Unit of measure	Year	Quantity produced for all purposes	Total shipments including transfers quantity	Total shipments including transfers value ($1,000)
	Elemental gases and other industrial gases, n.e.c.--Continued					
	Nitrogen[6]--Continued					
	Liquid:					
	Produced for cylinder and bulk delivery shipment	Mil.cu.ft.	1971	52,554	52,553	90,572
	Produced for bulk shipment to pipelines or to other air separation plants	...do....	1971	4,091	4,085	4,954
	Produced for consumption in this plant	...do....	1971	1,747	(X)	(X)
2813450	Oxygen, total[6]	...do....	1971	[7]319,152	[7]268,845	[7]230,819
			1970	283,860	273,465	[8]237,675
			1969	275,962	264,958	[8]229,454
			1968	247,995	238,408	[8]224,867
			1967	225,191	220,802	[8]208,758
	Gas:					
	Produced for cylinder and bulk delivery shipment	...do....	1971	1,451	1,434	9,525
	Produced for pipeline shipments	...do....	1971	218,504	218,515	115,190
	Produced for consumption in this plant	...do....	1971	([9])	(X)	(X)
	Liquid:					
	Produced for cylinder and bulk delivery shipments	...do....	1971	39,186	39,179	86,396
	Produced for bulk shipment to pipeline or to other air separation plants	...do....	1971	9,711	9,717	19,708
	Produced for consumption in this plant	...do....	1971	[9]50,300	(X)	(X)
2813471	Nitrous oxide	1,000 gals (STP)	1971	1,121,366	1,121,366	4,057
			1970	1,098,553	1,098,342	3,890
			1969	1,052,712	1,051,910	3,917
			1968	996,658	996,586	3,887
			1967	953,065	953,583	4,432
2813498	Other industrial gases, n.e.c., including crude argon, carbon dioxide produced and transferred for further processing, and crude and high purity helium produced in privately owned plants[10]	.....	1971	(X)	(X)	48,336
			1970	(X)	(X)	[8]58,391
			1969	(X)	(X)	[8]60,676
			1968	(X)	(X)	[8]62,207
			1967	(X)	(X)	[8]60,286

-Represents zero. (NA) Not available. n.e.c. Not elsewhere classified. [r]Revised. (X) Not applicable.

[1]Excludes value for helium produced in government owned plants.

[2]Excludes information from railroad ships, shipyards, welding shops, and small establishments using portable generators.

[3]Excludes production of liquid and gas carbon dioxide converted to and reported as dry ice and also amounts converted from pure carbon dioxide (liguid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea, and quantities produced and transferred to other plants where it is further processed.

[4]Source: U.S. Department of Interior, Bureau of Mines.

[5]Excludes amounts vented, used as fuel, etc., and amounts produced and consumed in the manufacture of synthetic ammonia and methanol, but includes an unspecified amount produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts produced by the ammonia dissociation process (craking of ammonia). Also excludes amounts produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey.

[6]Excludes amounts produced and consumed in the manufacture of synthetic ammonia or ammonia derivatives.

[7]Data for 1971 include figures for high and lower purity gas. Prior to 1971, data only included figures for high purity gas.

[8]Data for lower purity nitrogen and lower purity oxygen combined with code 2813498 for 1967 through 1970.

[9]Data for oxygen(gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies.

[10]Excludes hydrocarbon gases such as propane, butane, and propylene, or halogenated hydrocarbons and cyclopropane, which are reported to the U.S. Tariff Commission. Also excludes sulfur dioxide and chlorine, figures for which are shown in Current Industrial Reports Series M28A (71)-14, Inorganic Chemicals and Gases.

Table 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES, BY MONTHS: 1970 AND 1971

Code	Product	Unit of measure	Year	Total	January	February	March	April	May	June	July	August	September	October	November	December
2813200	Acetylene	mil.cu.ft.	1971	12,336	956	1,027	830	1,086	1,051	1,024	1,019	1,035	1,018	1,085	1,117	1,088
			1970	14,834	1,415	1,336	1,271	1,301	1,257	1,575	1,197	1,107	1,138	1,096	1,085	1,056
	Produced for pipeline shipment, excluding that produced to be compressed	....do....	1971	6,169	434	472	359	621	550	499	514	529	505	565	566	555
	Produced for compression, including cylinder and pipeline	....do....	1971	1,518	128	132	145	131	124	122	111	116	122	127	129	131
	Produced for consumption in this plant	....do....	1971	4,649	394	423	326	334	377	403	394	390	391	393	422	402
2813415	Argon, high purity, total	....do....	1971	3,009	221	223	264	239	253	230	255	225	256	286	271	286
			1970	2,742	207	206	279	226	228	221	214	209	233	223	246	250
	Produced for cylinder and bulk delivery shipment	....do....	1971	3,009	221	223	264	239	253	230	255	225	256	286	271	286
	Carbon dioxide, total	Short tons	1971	1,270,013	90,588	92,117	96,636	105,067	104,316	112,850	119,038	120,603	112,425	108,591	104,212	103,570
			1970	1,135,454	78,425	91,917	93,334	96,514	109,361	100,427	104,344	105,406	103,336	88,421	82,175	81,794
2813311	Liquid and gas	....do....	1971	954,656	71,181	73,017	74,885	79,333	76,849	82,979	85,944	86,578	82,850	80,564	79,590	80,886
			1970	814,810	58,131	64,724	70,270	71,756	77,478	68,518	69,807	72,532	73,955	63,982	61,409	62,248
2813331	Solid (dry ice)	....do....	1971	315,357	19,407	19,100	21,751	25,734	27,467	29,871	33,094	34,025	29,575	28,027	24,622	22,684
			1970	320,644	20,294	27,193	23,064	24,758	31,883	31,909	34,537	32,874	29,381	24,439	20,766	19,546
2813420	Hydrogen, total	mil.cu.ft.	1971	55,639	4,418	4,217	4,698	4,634	4,694	4,628	4,655	4,686	4,380	5,172	4,678	4,779
			1970	59,654	4,963	4,754	5,025	5,030	5,092	5,062	4,860	5,030	4,827	5,170	4,842	4,999
	Produced for cylinder and bulk delivery shipment	....do....	1971	5,312	415	405	460	499	487	465	414	452	392	442	464	417
	Liquid produced for conversion to gas	....do....	1971													
	Produced for pipeline shipment	....do....	1971	12,312	1,053	936	1,183	1,019	1,119	1,002	1,007	1,002	747	1,278	951	1,015
	Liquid produced for government use	....do....	1971													
	Produced for consumption in this plant	....do....	1971	38,015	2,950	2,876	3,055	3,116	3,088	3,161	3,234	3,232	3,241	3,452	3,263	3,347
2813440	Nitrogen, total	....do....	1971	165,219	13,353	12,720	14,231	13,503	14,170	13,900	13,663	13,495	13,504	14,417	13,960	14,303
			1970	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	Gas: Produced for cylinder and bulk delivery shipment	....do....	1971	1,026	75	94	92	97	91	92	86	66	57	87	90	99
	Produced for pipeline shipment	....do....	1971	90,920	7,624	7,245	7,950	7,698	7,864	7,731	7,350	7,094	7,177	7,541	7,604	8,042
	Produced for consumption in this plant	....do....	1971	14,881	1,316	1,151	1,330	1,115	1,257	1,224	1,232	1,280	1,198	1,276	1,248	1,254

Table 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES, BY MONTHS: 1970 AND 1971--Continued

Code	Product	Unit of Measure	Year	Total	January	February	March	April	May	June	July	August	September	October	November	December
	Nitrogen--Continued															
	Liquid:															
	Produced for cylinder and bulk delivery	mil.cu.ft.	1971	52,554	3,825	3,763	4,424	4,139	4,517	4,393	4,551	4,548	4,577	4,977	4,497	4,343
	Produced for bulk shipment to pipelines or to other air separation plants	....do....	1971	4,091	398	355	324	344	285	294	297	342	345	370	350	387
	Produced for consumption in this plant	....do....	1971	1,747	115	112	111	110	156	166	147	165	150	166	171	178
2813450	Oxygen, total	....do....	1971	319,152	28,479	27,559	29,976	28,649	29,674	26,738	26,423	21,596	23,737	25,236	24,835	26,250
			1970	329,729	27,391	26,377	28,604	28,145	28,286	27,527	27,166	26,534	26,787	28,487	26,922	27,503
	Gas:															
	Produced for cylinder and bulk delivery shipment	....do....	1971	1,451	60	79	125	142	138	116	145	111	130	121	163	121
	Produced for pipeline shipment	....do....	1971	218,504	19,690	18,942	21,370	19,981	20,775	18,542	18,201	13,623	15,485	17,056	16,837	18,002
	Produced for consumption in this plant	....do....	1971	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	Liquid:															
	Produced for cylinder and bulk delivery shipment	....do....	1971	39,186	3,004	2,976	3,654	3,370	3,337	2,973	3,293	3,013	3,302	3,639	3,207	3,418
	Produced for bulk shipment to pipelines or to other air separation plants	....do....	1971	9,711	1,001	1,105	1,050	999	935	996	676	573	693	550	591	542
	Produced for consumption in this plant	....do....	1971	[1]50,300	[1]4,724	[1]4,457	[1]3,777	[1]4,157	[1]4,489	[1]4,111	[1]4,108	[1]4,276	[1]4,127	[1]3,870	[1]4,037	[1]4,167

[r]Revised (NA) Not available -Represents zero
(D) Withheld to avoid disclosing figures for individual companies.

[1]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies.

Table 3.--PRODUCTION AND SHIPMENTS OF ACETYLENE, BY GEOGRAPHIC AREA: 1971

Production	Production (mil. cu. ft.)	Total shipments including interplant tansfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	12,336	7,684	98,053
Northeast Region and North Central Region	2,435	1,600	28,795
South Region	9,478	5,821	60,940
Mountain Division	92	67	2,100
Pacific Division	331	196	6,218

[1]See table 9 for the number of establishments reporting production by State.

Table 4.--PRODUCTION AND SHIPMENTS OF CARBON DIOXIDE, BY DIVISIONS: 1971

Division	Total liquid and solid			Liquid and gas			Solid (dry ice)		
	Production (short tons)	Shipments		Production (short tons)	Shipments		Production (short tons)	Shipments	
		Quantity (short tons)	Value ($1,000)		Quantity (short tons)	Value ($1,000)		Quantity (short tons)	Value ($1,000)
UNITED STATES, TOTAL[1]	1,270,013	1,147,433	38,312	954,656	832,566	20,720	315,357	314,867	17,592
New England and Middle Atlantic	115,357	112,946	4,342	64,456	61,927	1,344	50,901	51,019	2,998
East North Central	213,923	199,808	7,528	144,431	130,316	3,425	69,492	69,492	4,103
West North Central	182,079	175,260	5,064	145,218	137,181	2,726	36,861	38,079	2,338
South Atlantic and East South Central	273,360	250,346	11,053	225,217	204,029	7,642	48,143	46,317	3,411
West South Central	270,884	202,701	4,744	247,177	178,994	3,348	23,707	23,707	1,396
Mountain	54,423	54,423	934	29,052	29,052	390	25,371	25,371	544
Pacific	159,987	151,949	4,647	99,105	91,067	1,845	60,882	60,882	2,802

[1]See table 9 for the number of establishments reporting production by State.

Table 5.--SHIPMENTS OF ARGON (HIGH PURITY) BY GEOGRAPHIC AREA: 1971

Geographic area	Total shipments including interplant transfers	
	Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	2,986	29,149
Northeast Region	668	5,899
East North Central Division	1,084	10,424
Ohio	379	4,023
South Atlantic Division	423	4,126
East South Central Division	86	723
West South Central Division	301	2,699
West Region	424	5,278
California	327	3,096

[1]See table 9 for the number of establishments reporting production by State.

Table 6.--PRODUCTION AND SHIPMENTS OF HYDROGEN (TOTAL) BY GEOGRAPHIC AREA: 1971

Geographic area	Production (mil. cu. ft.)	Total shipments including interplant transfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	55,639	17,460	33,521
Northeast Region	5,142	2,431	5,963
North Central Region	6,042	2,463	3,262
South Region and West Region	44,518	12,566	24,296
East South Central Division	4,462	1,497	1,415
West South Central Division	26,598	3,515	9,798

[1]See table 9 for the number of establishments reporting production by State.

Table 7.--PRODUCTION AND SHIPMENTS OF NITROGEN (TOTAL) BY GEOGRAPHIC AREA: 1971

Geographic area	Production (mil. cu. ft.)	Total shipments including interplant transfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	165,219	148,453	134,592
New England Division	2,958	2,931	5,793
Middle Atlantic Division	21,398	20,308	23,520
New York	3,987	3,634	3,250
New Jersey	7,812	7,777	9,790
Pennsylvania	9,598	8,897	10,680
North Central Region	33,936	32,765	28,621
Ohio	9,589	9,447	9,269
Illinois	7,238	7,036	6,568
South Atlantic Division	28,196	24,049	18,290
West Virginia	11,249	7,581	3,303
East South Central Division	8,692	7,282	7,215
Tennessee	2,817	1,428	1,343
Alabama	3,908	3,908	4,983
West South Central Division	50,134	41,303	25,420
Texas	39,569	34,915	19,390
Mountain Division	1,585	1,584	2,345
Utah	169	169	402
Pacific Division	18,320	17,231	23,188
California	16,817	16,361	19,027

[1]See table 9 for the number of establishments reporting production by State.

Table 8.--PRODUCTION AND SHIPMENTS OF OXYGEN (TOTAL) BY GEOGRAPHIC AREAS: 1971

Geographic area	Production (mil. cu. ft.)	Total shipments including interplant transfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	319,152	268,845	230,819
New England Division	1,083	1,070	2,140
Middle Atlantic Division	60,989	60,385	54,727
New York	11,531	11,450	6,793
New Jersey	2,681	2,943	5,634
Pennsylvania	46,777	45,991	42,300
North Central Region	111,178	96,516	75,867
Ohio	34,206	34,687	22,550
Michigan	19,369	10,610	6,608
South Atlantic Region	37,670	33,475	25,113
West Virginia	21,631	17,609	10,387
Florida	1,190	1,190	2,889
East South Central Division	21,131	21,131	22,666
Alabama	7,642	7,642	10,219
West South Central Division	66,311	35,835	20,364
Texas	49,893	29,662	15,753
Mountain Division	6,056	5,700	6,336
Utah	2,631	2,276	2,296
Pacific Division	14,734	14,733	23,606
California	13,560	13,560	17,651

Note: Detailed figures may not add to totals because of independent rounding.

[1]See table 9 for number of establishments reporting production by State.

Table 9.--NUMBER OF ESTABLISHMENTS REPORTING THE PRODUCTION OF SELECTED INDUSTRIAL GASES, BY STATE: 1971

State	Acetylene 2813200	Carbon dioxide		Solid 2813331	Argon (refined) 2813415	Hydrogen 2813420	Nitrogen 2813440	Oxygen 2813450	Nitrous oxide 2813471
		Total[1] 28133	Liquid or gas[2] 2813311						
UNITED STATES, TOTAL.....	198	66	49	40	67	133	198	176	5
New England.....	4	1	-	1	1	4	9	5	-
Maine.....	-	-	-	-	-	1	-	1	-
New Hampshire.....	-	-	-	-	-	-	-	-	-
Vermont.....	-	-	-	-	-	-	1	-	-
Massachusetts.....	2	1	-	1	1	1	5	3	-
Rhode Island.....	-	-	-	-	-	-	-	-	-
Connecticut.....	2	-	-	-	-	2	3	1	-
Middle Atlantic.....	20	4	3	2	9	15	32	30	1
New York.....	5	1	1	-	1	4	9	4	-
New Jersey.....	4	2	1	1	2	8	6	5	1
Pennsylvania.....	11	1	1	1	6	3	17	21	-
East North Central.....	38	8	5	6	15	30	44	44	1
Ohio.....	14	4	3	4	7	8	12	22	1
Indiana.....	6	1	1	-	3	3	5	4	-
Illinois.....	6	2	-	2	3	13	17	10	-
Michigan.....	8	-	-	-	2	6	8	7	-
Wisconsin.....	4	1	1	-	-	-	2	1	-
West North Central.....	17	9	7	5	-	4	8	8	1
Minnesota.....	3	2	1	1	-	-	1	3	-
Iowa.....	3	2	2	1	-	-	-	-	-
Missouri.....	2	3	2	2	-	2	4	3	1
North Dakota.....	-	-	-	-	-	-	-	-	-
South Dakota.....	3	-	-	-	-	-	1	2	-
Nebraska.....	1	-	-	-	-	1	-	-	-
Kansas.....	5	2	2	1	-	1	2	-	-
South Atlantic.....	24	10	7	6	8	16	29	17	1
Delaware.....	-	-	-	-	1	4	2	2	-
Maryland.....	2	-	-	-	1	-	4	2	-
District of Columbia.....	-	-	-	-	-	-	-	-	-
Virginia.....	3	2	2	2	1	2	3	3	1
West Virginia.....	4	2	2	1	2	6	10	5	-
North Carolina.....	4	1	1	-	1	1	3	1	-
South Carolina.....	-	-	-	-	-	-	2	1	-
Georgia.....	4	2	1	1	1	2	2	1	-
Florida.....	7	3	1	2	1	1	3	2	-
East South Central.....	15	3	2	2	5	18	17	16	-
Kentucky.....	2	1	-	1	-	4	5	4	-
Tennessee.....	8	2	2	1	2	9	7	5	-
Alabama.....	4	-	-	-	3	4	4	6	-
Mississippi.....	1	-	-	-	-	1	1	1	-
West South Central.....	37	13	10	5	15	26	31	29	-
Arkansas.....	2	-	-	-	1	-	1	1	-
Louisiana.....	6	4	3	2	4	6	10	8	-
Oklahoma.....	4	-	-	-	-	1	-	-	-
Texas.....	25	9	7	3	10	19	20	20	-
Mountain.....	18	5	4	5	3	3	7	9	-
Montana.....	3	-	-	-	-	-	1	1	-
Idaho.....	2	-	-	-	-	-	-	-	-
Wyoming.....	1	-	-	-	-	-	-	-	-
Colorado.....	5	1	1	1	1	1	1	2	-
New Mexico.....	2	2	2	2	-	-	-	-	-
Arizona.....	1	-	-	-	1	1	2	2	-
Utah.....	4	2	1	2	1	1	3	4	-
Nevada.....	-	-	-	-	-	-	-	-	-
Pacific.....	25	13	11	8	11	17	21	18	1
Washington.....	5	2	2	2	1	3	3	2	-
Oregon.....	5	-	-	-	1	1	1	1	-
California.....	11	7	5	5	9	11	14	12	1
Alaska.....	1	-	-	-	-	-	-	-	-
Hawaii.....	3	4	4	1	-	2	3	3	-

-Represents zero.
[1]Unduplicated.
[2]Excludes plants converting entire production to solid.

CURRENT INDUSTRIAL REPORTS

Industrial Gases

January 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

April 1972

SERIES: M28C(72)-1

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (100%) (Mil. cu. ft.)	Nitrogen high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1972						
January	1,024	69,547	20,126	4,704	14,230	27,191
1971						
December	1,903	77,754	21,364	4,805	14,283	26,274
November	1,119	79,128	23,723	4,613	13,717	24,342
October	1,055	84,593	27,178	5,139	14,273	24,926
September	1,018	84,156	32,417	4,355	13,437	23,565
August	1,038	96,829	33,810	4,615	13,867	20,740
July	1,185	87,505	32,651	4,485	14,152	26,322
June	1,317	77,786	39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	28,934
April	1,237	74,561	27,165	4,519	13,164	27,634
March	1,220	76,844	20,355	4,688	13,650	29,668
February	1,047	63,735	17,048	4,257	12,496	26,194
January	968	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,012	56,432	20,860	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
August	1,124	73,394	33,222	4,939	(NA)	25,604
July	1,214	69,544	34,621	4,764	(NA)	26,198
June	1,220	68,349	31,993	4,972	(NA)	26,496
May	1,275	77,928	31,787	5,001	(NA)	27,261
April	1,319	72,872	29,409	4,951	(NA)	27,734
March	1,306	67,224	29,227	4,933	(NA)	27,052
February	1,254	52,850	27,279	4,644	(NA)	25,161
January	1,228	53,370	20,323	4,824	(NA)	26,022

(NA) Not available.

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	JANUARY 1972 QUANTITY PRODUCED	DECEMBER 1971 QUANTITY PRODUCED	JANUARY 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	1 024	1 093	968
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	507	564	450
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	122	126	123
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	395	403	395
2813415	ARGON, HIGH PURITY	DO	274	281	226
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	274	281	226
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	69 547	r77 754	61 941
2813331	SOLID (DRY ICE)	DO	20 126	21 364	18 259
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 704	4 805	4 390
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	} 498	446	506
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	925	919	2 900
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	} 3 290	3 440	984
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN, TOTAL (4)	DO	14 230	14 283	13 067
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	254	263	186
	PRODUCED FOR PIPELINE SHIPMENT	DO	8 106	7 906	7 461
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	993	1 044	1 054
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 287	4 520	3 896
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	} 590	550	470
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813450	OXYGEN, TOTAL	DO	27 191	26 274	27 473
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	(5)	256
	PRODUCED FOR PIPELINE SHIPMENT	DO	18 946	17 766	19 951
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 714	3 816	3 066
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	[5]3 546	[5]3 794	2 910
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	} 985	898	1 290
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			

(NA) NOT AVAILABLE
rREVISED BY 5 PERCENT OR MORE FROM PREVIOUSLY PUBLISHED FIGURES.

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

(2) EXCLUDES PRODUCTION OF LIQUID AND GAS CO2 CONVERTED TO AND REPORTED AS DRY ICE AND ALSO AMOUNTS CONVERTED FROM PURE CO2 (LIQUID OR SOLID) PURCHASED OR RECEIVED FROM OTHER PLANTS. ALSO EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN PLANTS MANUFACTURING SODA ASH OR UREA.

(3) EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN THE MANUFACTURE OF METHANOL AND AMMONIA, BUT INCLUDES AN UNSPECIFIED AMOUNT OF HYDROGEN PRODUCED FOR SALE OR INTERPLANT TRANSFER TO PLANTS CONSUMING THIS GAS IN THE PRODUCTION OF AMMONIA. ALSO EXCLUDES AMOUNTS OF HYDROGEN PRODUCED IN PETROLEUM REFINERIES FOR CAPTIVE USE, HOWEVER, OF THE TOTAL SHOWN FOR LOWER PURITY HYDROGEN PRIOR TO 1969, 70 TO 75 PERCENT WAS ACCOUNTED FOR BY PETROLEUM REFINERS WITH CAPTIVE HYDROGEN PRODUCTION. NOT ALL SUCH PETROLEUM REFINERIES WERE CANVASSED IN THIS SURVEY.

(4) EXCLUDES AMOUNTS PRODUCED AND USED IN THE MANUFACTURE OF AMMONIA AND AMMONIA DERIVATIVES.

(5) OXYGEN GAS, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS COMBINED WITH OXYGEN LIQUID, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

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RELATED REPORTS

Monthly Current Industrial Report, Inorganic Chemicals, Series M28A, includes production and stock data for specified inorganic chemicals. Monthly CIR report, Inorganic Fertilizer Materials and Related Acids, Series M28B, includes production and stock data for ammonia and ammonia compounds, phosphatic fertilizers, and sulfuric acid.

An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

CURRENT INDUSTRIAL REPORTS

Industrial Gases

February 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

May 1972

SERIES: M28C(72)-2

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (100%) (Mil. cu. ft.)	Nitrogen high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1972						
February	1,004	67,226	24,945	4,961	13,857	26,258
January	1,023	68,520	r22,299	4,728	14,351	27,275
1971						
December	1,903	77,754	21,364	4,805	14,283	26,274
November	1,119	79,128	23,723	4,613	13,717	24,342
October	1,055	84,593	27,178	5,139	14,273	24,926
September	1,018	84,156	32,417	4,355	13,437	23,565
August	1,038	96,829	33,810	4,615	13,867	20,740
July	1,185	87,505	32,651	4,485	14,152	26,322
June	1,317	77,786	39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	28,934
April	1,237	74,561	27,165	4,519	13,164	27,634
March	1,220	76,844	20,355	4,688	13,650	29,668
February	1,047	63,735	17,048	4,257	12,496	26,194
January	968	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,012	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
August	1,124	73,394	33,222	4,939	(NA)	25,604
July	1,214	69,544	34,621	4,764	(NA)	26,198
June	1,220	68,349	31,993	4,972	(NA)	26,496
May	1,275	77,928	31,787	5,001	(NA)	27,261
April	1,319	72,872	29,409	4,951	(NA)	27,734
March	1,306	67,224	29,227	4,933	(NA)	27,052
February	1,254	52,850	27,279	4,644	(NA)	25,161

(NA) Not available.

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	FEBRUARY 1972 QUANTITY PRODUCED	JANUARY 1972 QUANTITY PRODUCED	FEBRUARY 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	1 004	1 023	1 047
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	500	506	502
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	132	122	122
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	372	395	423
2813415	ARGON, HIGH PURITY	DO	262	276	224
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	262	276	224
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	67 226	68 520	63 735
2813331	SOLID (DRY ICE)	DO	24 945	r22 299	17 048
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 961	4 728	4 257
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	785	537	510
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	979	859	945
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 197	3 282	2 802
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN, TOTAL (4)	DO	13 857	14 351	12 499
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	230	r233	186
	PRODUCED FOR PIPELINE SHIPMENT	DO	7 596	8 127	7 174
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 129	996	1 020
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 291	4 408	3 685
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	611	587	352
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			82
2813450	OXYGEN, TOTAL	DO	26 258	27 275	26 194
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	(5)	252
	PRODUCED FOR PIPELINE SHIPMENT	DO	17 926	18 946	18 811
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 526	3 714	2 879
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	5 3 613	5 3 630	2 823
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 193	985	1 429
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			

(NA) Not available.

rRevised by 5 percent or more from previously published figures.

(1) Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators.

(2) Excludes production of liquid and gas CO2 converted to and reported as dry ice and also amounts converted from pure CO2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea.

(3) Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey.

(4) Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives.

(5) Oxygen gas, produced for cylinder and bulk delivery shipments combined with oxygen liquid, produced for cylinder and bulk delivery shipments.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases-Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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The data in this report are not adjusted for seasonal variation or number of working days.

RELATED REPORTS

Monthly Current Industrial Report, Inorganic Chemicals, Series M28A, includes production and stock data for specified inorganic chemicals. Monthly CIR report, Inorganic Fertilizer Materials and Related Acids, Series M28B, includes production and stock data for ammonia and ammonia compounds, phosphatic fertilizers, and sulfuric acid.

An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

Units of measure--All figures reported in million cubic feet at 70°F and 1 atmosphere pressure, unless otherwise specified.

 CURRENT INDUSTRIAL REPORTS

Industrial Gases

March 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

May 1972 SERIES: M28C(72)-3

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (1000%) (Mil. cu. ft.)	Nitrogen high and low purity (1000%) (Mil. cu. ft.)	Oxygen, high and low purity (1000%) (Mil. cu. ft.)
1972						
March	997	90,702	r29,761	4,808	15,401	28,212
February	1,002	65,870	r22,941	4,749	13,987	26,457
January	1,023	68,520	r22,299	4,728	14,351	27,275
1971						
December	1,903	77,754	21,364	4,805	14,283	26,274
November	1,119	79,128	23,723	4,613	13,717	24,342
October	1,055	84,593	27,178	5,139	14,273	24,926
September	1,018	84,156	32,417	4,355	13,437	23,565
August	1,038	96,829	33,810	4,615	13,867	20,740
July	1,185	87,505	32,651	4,485	14,152	26,322
June	1,317	77,786	39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	28,934
April	1,237	74,561	27,165	4,519	13,164	27,634
March	1,220	76,844	20,355	4,688	13,650	29,668
February	1,047	63,735	17,048	4,257	12,496	26,194
January	968	61,941	18,259	4,390	12,865	26,612
1970						
December	1,073	57,456	20,488	4,970	(NA)	26,394
November	1,012	56,432	20,850	4,752	(NA)	25,814
October	1,112	63,418	24,523	5,034	(NA)	27,309
September	1,155	74,024	29,465	4,816	(NA)	25,688
August	1,124	73,394	33,222	4,939	(NA)	25,604
July	1,214	69,544	34,621	4,764	(NA)	26,198
June	1,220	68,349	31,993	4,972	(NA)	26,496
May	1,275	77,928	31,787	5,001	(NA)	27,261
April	1,319	72,872	29,409	4,951	(NA)	27,734
March	1,306	67,224	29,227	4,933	(NA)	27,052

(NA) Not available. rRevised by 5 percent or more from previously published figures.

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	MARCH 1972 QUANTITY PRODUCED	FEBRUARY 1972 QUANTITY PRODUCED	MARCH 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	997	1 002	1 220
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	503	500	755
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	135	130	134
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	359	372	331
2813415	ARGON, HIGH PURITY	DO	310	266	262
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	310	266	262
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	87 702	65 870	76 844
2813331	SOLID (DRY ICE)	DO	29 761	r22 941	20 355
2813420	HYDROGEN:TOTAL (3)	MIL.CU.FT	4 808	4 749	4 688
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	648	r572	549
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	923	980	1 039
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 237	3 197	3 100
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN, TOTAL (4)	DO	15 401	13 987	13 650
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	82	r73	201
	PRODUCED FOR PIPELINE SHIPMENT	DO	8 635	r7 796	7 665
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 139	1 129	1 087
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 809	4 378	4 316
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	736	611	292
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			89
2813450	OXYGEN, TOTAL	DO	27 972	26 240	29 668
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	(5)	322
	PRODUCED FOR PIPELINE SHIPMENT	DO	18 989	17 940	21 047
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 862	3 526	3 322
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	5 3 758	5 3 573	3 560
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 363	1 201	1 417
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			

(NA) NOT AVAILABLE

rREVISED BY 5 PERCENT OR MORE FROM PREVIOUSLY PUBLISHED FIGURES.

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

(2) EXCLUDES PRODUCTION OF LIQUID AND GAS CO2 CONVERTED TO AND REPORTED AS DRY ICE AND ALSO AMOUNTS CONVERTED FROM PURE CO2 (LIQUID OR SOLID) PURCHASED OR RECEIVED FROM OTHER PLANTS. ALSO EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN PLANTS MANUFACTURING SODA ASH OR UREA.

(3) EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN THE MANUFACTURE OF METHANOL AND AMMONIA; BUT INCLUDES AN UNSPECIFIED AMOUNT OF HYDROGEN PRODUCED FOR SALE OR INTERPLANT TRANSFER TO PLANTS CONSUMING THIS GAS IN THE PRODUCTION OF AMMONIA. ALSO EXCLUDES AMOUNTS OF HYDROGEN PRODUCED IN PETROLEUM REFINERIES FOR CAPTIVE USE. HOWEVER, OF THE TOTAL SHOWN FOR LOWER PURITY HYDROGEN PRIOR TO 1969, 70 TO 75 PERCENT WAS ACCOUNTED FOR BY PETROLEUM REFINERS WITH CAPTIVE HYDROGEN PRODUCTION. NOT ALL SUCH PETROLEUM REFINERIES WERE CANVASSED IN THIS SURVEY.

(4) EXCLUDES AMOUNTS PRODUCED AND USED IN THE MANUFACTURE OF AMMONIA AND AMMONIA DERIVATIVES.

(5) OXYGEN GAS, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS COMBINED WITH OXYGEN LIQUID, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

CURRENT INDUSTRIAL REPORTS

Industrial Gases

April 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

JULY 1972

SERIES: M28C(72)-4

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen, high and low purity (1000%) (Mil. cu. ft.)	Nitrogen, high and low purity (1000%) (Mil. cu. ft.)	Oxygen, high and low purity (1000%) (Mil. cu. ft.)
1972						
April	918	79,347	30,630	4,669	14,185	28,751
March	997	87,702	r27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,903	77,754	21,364	4,805	14,283	26,274
November	1,119	79,128	23,723	4,613	13,717	24,342
October	1,055	84,593	27,178	5,139	14,273	24,926
September	1,018	84,156	32,417	4,355	13,437	23,565
August	1,038	96,829	33,810	4,615	13,867	20,740
July	1,185	87,505	32,651	4,485	14,152	26,322
June	1,317	77,786	39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	28,934
April	1,237	74,561	27,165	4,519	13,164	27,634
March	1,220	76,844	20,355	4,688	13,650	29,668
February	1,047	63,735	17,048	4,257	12,496	26,194
January	968	61,941	18,259	4,390	12,865	26,612
1970						
December	1,056	57,248	19,546	4,999	12,969	27,503
November	1,085	56,409	20,766	4,842	12,713	26,922
October	1,096	62,982	24,439	5,170	13,231	28,487
September	1,138	72,955	29,381	4,827	12,948	26,787
August	1,107	71,532	32,874	5,030	13,298	26,534
July	1,197	68,807	34,537	4,860	13,295	27,166
June	1,575	67,518	31,909	5,062	12,384	27,527
May	1,257	76,478	31,883	5,092	12,637	28,286
April	1,301	70,756	24,758	5,030	11,996	28,147

rRevised by 5 percent or more from previously published figures.

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	APRIL 1972 QUANTITY PRODUCED	MARCH 1972 QUANTITY PRODUCED	APRIL 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	918	997	1 237
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	470	503	782
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	118	135	121
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	330	359	334
2813415	ARGON, HIGH PURITY	DO	294	311	237
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	294	311	237
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	79 347	87 702	74 561
2813331	SOLID (DRY ICE)	DO	30 630	r27 579	27 165
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 669	4 810	4 519
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	} 529	648	571
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	979	926	943
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	} 3 161	3 236	3 005
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN, TOTAL (4)	DO	14 185	15 437	13 164
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	82	82	395
	PRODUCED FOR PIPELINE SHIPMENT	DO	8 084	8 670	7 407
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 021	1 140	872
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 448	4 809	4 034
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	} 550	736	{ 369
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			87
2813450	OXYGEN, TOTAL	DO	28 751	28 713	27 634
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	(5)	313
	PRODUCED FOR PIPELINE SHIPMENT	DO	20 041	19 426	19 670
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	r3 832	r4 057	3 024
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	r3 624	r3 867	3 276
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	908	971	} 1 351
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	346	392	

(NA) NOT AVAILABLE

rREVISED BY 5 PERCENT OR MORE FROM PREVIOUSLY PUBLISHED FIGURES.

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

(2) EXCLUDES PRODUCTION OF LIQUID AND GAS CO2 CONVERTED TO AND REPORTED AS DRY ICE AND ALSO AMOUNTS CONVERTED FROM PURE CO2 (LIQUID OR SOLID) PURCHASED OR RECEIVED FROM OTHER PLANTS. ALSO EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN PLANTS MANUFACTURING SODA ASH OR UREA.

(3) EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN THE MANUFACTURE OF METHANOL AND AMMONIA, BUT INCLUDES AN UNSPECIFIED AMOUNT OF HYDROGEN PRODUCED FOR SALE OR INTERPLANT TRANSFER TO PLANTS CONSUMING THIS GAS IN THE PRODUCTION OF AMMONIA. ALSO EXCLUDES AMOUNTS OF HYDROGEN PRODUCED IN PETROLEUM REFINERIES FOR CAPTIVE USE. HOWEVER, OF THE TOTAL SHOWN FOR LOWER PURITY HYDROGEN PRIOR TO 1969, 70 TO 75 PERCENT WAS ACCOUNTED FOR BY PETROLEUM REFINERS WITH CAPTIVE HYDROGEN PRODUCTION. NOT ALL SUCH PETROLEUM REFINERIES WERE CANVASSED IN THIS SURVEY.

(4) EXCLUDES AMOUNTS PRODUCED AND USED IN THE MANUFACTURE OF AMMONIA AND AMMONIA DERIVATIVES.

(5) OXYGEN GAS, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS COMBINED WITH OXYGEN LIQUID, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

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Statistics for previous months may be revised, due to receipt of corrected data from respondents, including late reports for which estimates were made, and other corrections. Figures which were revised significantly are indicated by footnotes.

The data are not adjusted for seasonal variation or number of working days.

RELATED REPORTS

Monthly Current Industrial Report, Inorganic Chemicals, Series M28A, includes production and stock data for specified inorganic chemicals. Monthly CIR report, Inorganic Fertilizer Materials and Related Acids, Series M28B, includes production and stock data for ammonia and ammonia compounds, phosphatic fertilizers, and sulfuric acid.

An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

 CURRENT INDUSTRIAL REPORTS

Industrial Gases

May 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

JULY 1972

SERIES: M28C(72)-5

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen high and low purity (100%) (Mil. cu. ft.)	Nitrogen high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1972						
May	893	88,891	32,994	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1972						
December	1,903	77,754	21,364	4,805	14,283	26,274
November	1,119	79,128	23,723	4,613	13,717	24,342
October	1,055	84,593	27,178	5,139	14,273	24,926
September	1,018	84,156	32,417	4,355	13,437	23,565
August	1,038	96,829	33,810	4,615	13,867	20,740
July	1,185	87,505	32,651	4,485	14,152	26,322
June	1,317	77,786	39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	38,934
April	1,237	74,561	27,165	4,519	13,164	27,634
March	1,220	76,844	20,355	4,688	13,650	29,668
February	1,047	63,735	17,048	4,257	12,496	26,194
January	968	61,941	18,259	4,390	12,865	26,612
1970						
December	1,056	57,248	19,546	4,999	12,969	27,503
November	1,085	56,409	20,766	4,842	12,713	26,922
October	1,096	62,982	24,439	5,170	13,231	28,487
September	1,138	72,955	29,381	4,827	12,948	26,787
August	1,107	71,532	32,874	5,030	13,298	26,534
July	1,197	68,807	34,537	4,860	13,295	27,166
June	1,575	67,518	31,909	5,062	12,384	27,527
May	1,257	76,478	31,883	5,092	12,637	28,286

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	MAY 1972 QUANTITY PRODUCED	APRIL 1972 QUANTITY PRODUCED	MAY 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	893	917	1 350
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	447	470	865
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	122	118	115
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	324	329	370
2813415	ARGON, HIGH PURITY	DO	324	293	254
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	324	293	254
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	88 891	77 313	71 143
2813331	SOLID (DRY ICE)	DO	32 994	30 848	29 227
2813420	HYDROGEN: TOTAL (3)	MIL.CU.FT	5 124	4 669	4 703
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	643	529	573
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1 108	979	1 009
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 373	3 161	3 121
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN: TOTAL (4)	DO	14 912	14 164	13 860
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	82	82	266
	PRODUCED FOR PIPELINE SHIPMENT	DO	8 452	8 060	7 699
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	868	1 021	1 012
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4 965	4 451	4 420
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	545	550	322
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			141
2813450	OXYGEN: TOTAL	DO	30 353	28 691	28 934
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	(5)	303
	PRODUCED FOR PIPELINE SHIPMENT	DO	20 872	19 981	20 463
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	4 234	3 832	3 656
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	5 4 122	5 3 626	3 244
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 125	1 252	1 268
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			

(NA) NOT AVAILABLE

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

(2) EXCLUDES PRODUCTION OF LIQUID AND GAS CO2 CONVERTED TO AND REPORTED AS DRY ICE AND ALSO AMOUNTS CONVERTED FROM PURE CO2 (LIQUID OR SOLID) PURCHASED OR RECEIVED FROM OTHER PLANTS. ALSO EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN PLANTS MANUFACTURING SODA ASH OR UREA.

(3) EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN THE MANUFACTURE OF METHANOL AND AMMONIA; BUT INCLUDES AN UNSPECIFIED AMOUNT OF HYDROGEN PRODUCED FOR SALE OR INTERPLANT TRANSFER TO PLANTS CONSUMING THIS GAS IN THE PRODUCTION OF AMMONIA. ALSO EXCLUDES AMOUNTS OF HYDROGEN PRODUCED IN PETROLEUM REFINERIES FOR CAPTIVE USE. HOWEVER, OF THE TOTAL SHOWN FOR LOWER PURITY HYDROGEN PRIOR TO 1969, 70 TO 75 PERCENT WAS ACCOUNTED FOR BY PETROLEUM REFINERS WITH CAPTIVE HYDROGEN PRODUCTION. NOT ALL SUCH PETROLEUM REFINERIES WERE CANVASSED IN THIS SURVEY.

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(5) OXYGEN GAS, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS COMBINED WITH OXYGEN LIQUID, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases-Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

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An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production-Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks-Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figures represents total stocks of producing companies including amounts held at locations other than producing plants.

Units of measure--All figures reported in million cubic feet at 70°F and 1 atmosphere pressure, unless otherwise specified.

UNITED STATES
PARTMENT OF
OMMERCE
UBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

June 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

August 1972

SERIES: M28C(72)-6

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide solid (281331) (Short tons)	Hydrogen high and low purity (100%) (Mil. cu. ft.)	Nitrogen high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1972						
June	954	92,595	35,941	4,806	15,192	29,347
May	893	90,229	33,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,093	77,754	21,364	4,805	14,283	26,274
November	1,119	79,128	23,723	4,613	13,717	24,342
October	1,055	84,593	27,178	5,139	14,273	24,926
September	1,018	84,156	32,417	4,355	13,437	23,565
August	1,038	96,829	33,810	4,615	13,867	20,740
July	1,185	87,505	32,651	4,485	14,152	26,322
June	1,317	77,786	39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	38,934
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February	1,047	63,735	17,048	4,257	12,496	26,194
January	968	61,941	18,259	4,390	12,865	26,612
1970						
December	1,056	57,248	19,546	4,999	12,969	27,503
November	1,085	56,409	20,766	4,842	12,713	26,922
October	1,096	62,982	24,439	5,170	13,231	28,487
September	1,138	72,955	29,381	4,827	12,948	26,787
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Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	JUNE 1972 QUANTITY PRODUCED	MAY 1972 QUANTITY PRODUCED	JUNE 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	954	893	1 317
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	500	448	789
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	116	122	111
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	338	323	417
2813415	ARGON, HIGH PURITY	DO	319	325	230
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	319	325	230
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	92 595	90 229	77 786
2813331	SOLID (DRY ICE)	DO	35 941	33 131	39 250
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 806	5 124	4 603
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	613	643	554
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1 031	1 108	1 010
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 162	3 373	3 039
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN, TOTAL (4)	DO	15 192	14 912	14 472
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	81	82	267
	PRODUCED FOR PIPELINE SHIPMENT	DO	8 123	8 452	7 572
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 332	868	972
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5 049	4 965	4 423
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	607	545	1 238
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813450	OXYGEN, TOTAL	DO	29 347	30 353	27 344
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	(5)	(5)
	PRODUCED FOR PIPELINE SHIPMENT	DO	20 302	20 872	19 281
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	4 036	4 234	3 720
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	r3 761	r4 122	2 908
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 248	1 125	1 435
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			

(NA) NOT AVAILABLE

rREVISED BY 5 PERCENT OR MORE FROM PREVIOUSLY PUBLISHED FIGURES.

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

(2) EXCLUDES PRODUCTION OF LIQUID AND GAS CO2 CONVERTED TO AND REPORTED AS DRY ICE AND ALSO AMOUNTS CONVERTED FROM PURE CO2 (LIQUID OR SOLID) PURCHASED OR RECEIVED FROM OTHER PLANTS. ALSO EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN PLANTS MANUFACTURING SODA ASH OR UREA.

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(4) EXCLUDES AMOUNTS PRODUCED AND USED IN THE MANUFACTURE OF AMMONIA AND AMMONIA DERIVATIVES.

(5) OXYGEN GAS, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS COMBINED WITH OXYGEN LIQUID, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

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The data are not adjusted for seasonal variation or number of working days.

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An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

July 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

September 1972

SERIES: M28C(72)-7

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide solid (281331) (Short tons)	Hydrogen high and low purity (100%) (Mil. cu. ft.)	Nitrogen high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1972						
July	925	86,667	36,137	4,884	15,642	28,884
June	953	92,604	35,941	4,932	15,145	29,388
May	893	90,229	33,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,093	77,754	21,364	4,805	14,283	26,274
November	1,119	79,128	23,723	4,613	13,717	24,342
October	1,055	84,593	27,178	5,139	14,273	24,926
September	1,018	84,156	32,417	4,355	13,437	23,565
August	1,038	96,829	33,810	4,615	13,867	20,740
July	1,185	87,505	32,651	4,485	14,152	26,322
June	1,317	77,786	39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	38,934
April	1,237	74,561	27,165	4,519	13,164	27,634
March	1,220	76,844	20,355	4,688	13,650	29,688
February	1,047	63,735	17,048	4,257	12,496	26,194
January	968	61,941	18,259	4,390	12,865	26,612
1970						
December	1,056	57,248	19,546	4,999	12,969	27,503
November	1,085	56,409	20,766	4,842	12,713	26,922
October	1,096	62,982	24,439	5,170	13,231	28,487
September	1,138	72,955	29,381	4,827	12,948	26,787
August	1,107	71,532	32,874	5,030	13,298	26,534
July	1,197	68,807	34,537	4,860	13,295	27,166

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	JULY 1972 QUANTITY PRODUCED	JUNE 1972 QUANTITY PRODUCED	JULY 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	925	953	1 185
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	482	500	687
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	98	115	104
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	345	338	394
2813415	ARGON, HIGH PURITY	DO	315	321	255
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	315	321	255
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	86 667	92 604	87 505
2813331	SOLID (DRY ICE)	DO	36 137	35 941	32 651
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 884	4 932	4 485
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	612	630	434
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	852	1 030	926
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 420	3 272	3 125
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN, TOTAL (4)	DO	15 642	15 145	14 152
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	67	81	222
	PRODUCED FOR PIPELINE SHIPMENT	DO	8 598	8 432	7 204
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 126	1 045	980
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5 299	4 980	4 626
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	552	607	1 120
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813450	OXYGEN, TOTAL	DO	28 884	29 388	26 322
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	(5)	(5)
	PRODUCED FOR PIPELINE SHIPMENT	DO	20 199	20 344	18 311
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 814	4 032	3 697
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	r 3 592	r 3 763	3 335
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 279	1 249	979
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			

(NA) NOT AVAILABLE

rREVISED BY 5 PERCENT OR MORE FROM PREVIOUSLY PUBLISHED FIGURES.

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

(2) EXCLUDES PRODUCTION OF LIQUID AND GAS CO2 CONVERTED TO AND REPORTED AS DRY ICE AND ALSO AMOUNTS CONVERTED FROM PURE CO2 (LIQUID OR SOLID) PURCHASED OR RECEIVED FROM OTHER PLANTS. ALSO EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN PLANTS MANUFACTURING SODA ASH OR UREA.

(3) EXCLUDES QUANTITIES PRODUCED AND CONSUMED IN THE MANUFACTURE OF METHANOL AND AMMONIA, BUT INCLUDES AN UNSPECIFIED AMOUNT OF HYDROGEN PRODUCED FOR SALE OR INTERPLANT TRANSFER TO PLANTS CONSUMING THIS GAS IN THE PRODUCTION OF AMMONIA. ALSO EXCLUDES AMOUNTS OF HYDROGEN PRODUCED IN PETROLEUM REFINERIES FOR CAPTIVE USE. HOWEVER, OF THE TOTAL SHOWN FOR LOWER PURITY HYDROGEN PRIOR TO 1969, 70 TO 75 PERCENT WAS ACCOUNTED FOR BY PETROLEUM REFINERS WITH CAPTIVE HYDROGEN PRODUCTION. NOT ALL SUCH PETROLEUM REFINERIES WERE CANVASSED IN THIS SURVEY.

(4) EXCLUDES AMOUNTS PRODUCED AND USED IN THE MANUFACTURE OF AMMONIA AND AMMONIA DERIVATIVES.

(5) OXYGEN GAS, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS COMBINED WITH OXYGEN LIQUID, PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENTS.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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The data are not adjusted for seasonal variation or number of working days.

RELATED REPORTS

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An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

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A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

August 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

October 1972

SERIES: M28C(72)-8

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide solid (281331) (Short tons)	Hydrogen high and low purity (100%) (Mil. cu. ft.)	Nitrogen high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1972						
August	943	92,686	39,490	4,667	15,994	28,922
July	925	86,507	36,137	4,874	15,676	28,920
June	953	92,604	35,941	4,932	15,145	29,388
May	893	90,229	33,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,093	77,754	21,364	4,805	14,283	26,274
November	1,119	79,128	23,723	4,613	13,717	24,342
October	1,055	84,593	27,178	5,139	14,273	24,926
September	1,018	84,156	32,417	4,355	13,437	23,565
August	1,308	96,829	33,810	4,615	13,867	20,740
July	1,185	87,505	32,651	4,485	14,152	26,322
June	1,317	77,786	39,250	4,603	14,472	27,344
May	1,350	71,143	29,227	4,703	13,860	38,934
April	1,237	74,561	27,165	4,519	13,164	27,634
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February	1,047	63,735	17,048	4,257	12,496	26,194
January	968	61,941	18,259	4,390	12,865	26,612
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December	1,056	57,248	19,546	4,999	12,969	27,503
November	1,085	56,409	20,766	4,842	12,713	26,922
October	1,096	62,982	24,439	5,170	13,231	28,487
September	1,138	72,955	29,381	4,827	12,948	26,787
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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	AUGUST 1972 QUANTITY PRODUCED	JULY 1972 QUANTITY PRODUCED	AUGUST 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	943	925	1 038
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	483	482	537
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	115	98	111
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	345	345	390
2813415	ARGON: HIGH PURITY	DO	299	315	227
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	299	315	227
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	92 686	86 507	96 829
2813331	SOLID (DRY ICE)	DO	39 490	36 137	33 810
2813420	HYDROGEN: TOTAL (3)	MIL.CU.FT	4 667	4 874	4 615
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	576	611	475
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1 038	846	901
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 053	3 417	3 239
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN: TOTAL (4)	DO	15 994	16 676	13 867
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	68	67	174
	PRODUCED FOR PIPELINE SHIPMENT	DO	8 957	8 630	7 199
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 177	1 126	1 048
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5 132	5 301	4 632
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	470	362	814
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	190	190	
2813450	OXYGEN: TOTAL	DO	28 922	28 920	20 740
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	(5)	13 173
	PRODUCED FOR PIPELINE SHIPMENT	DO	20 596	20 238	
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 434	3 814	3 659
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	53 572	53 589	3 045
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 320	1 279	863
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			

(NA) NOT AVAILABLE

(1) EXCLUDES QUANTITIES OF ACETYLENE PRODUCED AND CONSUMED BY RAILROAD SHOPS, SHIPYARDS, AND SMALL ESTABLISHMENTS USING PORTABLE GENERATORS.

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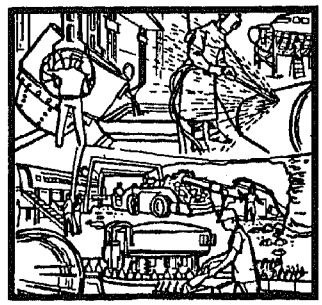
A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

CURRENT INDUSTRIAL REPORTS



Industrial Gases

September 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

November 1972

SERIES: M28C(72)-9

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide solid (281331) (Short tons)	Hydrogen high and low purity (100%) (Mil. cu. ft.)	Nitrogen high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1972						
September	929	88,144	34,345	4,884	15,402	29,830
August	943	92,964	37,022	4,619	15,965	29,095
July	925	86,507	36,137	4,874	15,676	28,920
June	953	92,604	35,941	4,932	15,145	29,388
May	893	90,229	33,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,088	80,886	22,684	4,779	14,303	26,250
November	1,117	79,590	24,622	4,678	13,960	24,835
October	1,085	80,664	28,027	5,172	14,417	25,236
September	1,018	82,850	29,575	4,380	13,504	23,737
August	1,035	86,578	34,025	4,686	13,495	21,596
July	1,019	85,944	33,094	4,655	13,663	26,423
June	1,024	82,979	29,871	4,628	13,900	26,738
May	1,051	76,849	27,467	4,694	14,170	29,674
April	1,086	79,333	25,734	4,634	13,503	28,649
March	830	74,885	21,751	4,698	14,231	29,976
February	1,027	73,107	19,100	4,217	12,720	27,559
January	956	71,181	19,407	4,418	13,353	28,479
1970						
December	1,056	62,248	19,546	4,999	(NA)	27,503
November	1,085	61,409	20,766	4,842	(NA)	26,922
October	1,096	63,982	24,439	5,170	(NA)	28,487
September	1,138	73,955	29,381	4,827	(NA)	26,787

(NA) Not available.

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	SEPTEMBER 1972 QUANTITY PRODUCED	AUGUST 1972 QUANTITY PRODUCED	SEPTEMBER 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	929	943	1 018
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	462	491	505
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	111	115	122
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	356	345	391
2813415	ARGON, HIGH PURITY	DO	303	297	256
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	303	297	256
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	88 144	92 964	82 850
2813331	SOLID (DRY ICE)	DO	34 345	37 022	29 381
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 884	4 619	4 380
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	589	576	392
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1 009	992	747
	LIQUID PRODUCED FOR GOVERNMENT USE	DO	3 286	3 051	3 241
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
2813440	NITROGEN, TOTAL (4)	DO	15 402	15 965	13 504
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	49	68	57
	PRODUCED FOR PIPELINE SHIPMENT	DO	8 666	8 929	7 177
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 096	1 177	1 198
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5 089	5 132	4 577
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	321	469	345
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	181	190	150
2813450	OXYGEN, TOTAL	DO	29 830	29 095	23 737
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	(5)	(5)	130
	PRODUCED FOR PIPELINE SHIPMENT	DO	20 656	20 558	15 485
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 774	3 434	(1)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	[5]3 941	[5]3 573	3 302
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	1 242	1 320	693
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			[1]4 127

([1])Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators. ([2])Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea. ([3])Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey. ([4])Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives. ([5])Oxygen gas, produced for cylinder and bulk delivery shipments combined with oxygen liquid, produced for cylinder and bulk delivery shipments.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

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An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

October 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

January 1973

SERIES: M28C(72)-10

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide solid (281331) (Short tons)	Hydrogen high and low purity (100%) (Mil. cu. ft.)	Nitrogen high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1972						
October	975	85,290	32,593	4,995	16,409	32,029
September	904	88,041	34,202	4,913	15,498	29,399
August	943	92,964	37,022	4,619	15,965	29,095
July	925	86,507	36,137	4,874	15,676	28,920
June	953	92,604	35,941	4,932	15,145	29,388
May	893	90,229	38,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,088	80,886	22,684	4,779	14,303	26,250
November	1,117	79,590	24,622	4,678	13,960	24,835
October	1,085	80,564	28,027	5,172	14,417	25,236
September	1,018	82,850	29,575	4,380	13,504	23,737
August	1,035	86,578	34,025	4,686	13,495	21,596
July	1,019	85,944	33,094	4,655	13,663	26,423
June	1,024	82,979	29,871	4,628	13,900	26,738
May	1,051	76,849	27,467	4,694	14,170	29,674
April	1,086	79,333	25,734	4,634	13,503	28,649
March	830	74,885	21,751	4,698	14,231	29,976
February	1,027	73,107	19,100	4,217	12,720	27,559
January	956	71,181	19,407	4,418	13,353	28,479
1970						
December	1,056	62,248	19,546	4,999	(NA)	27,503
November	1,085	61,409	20,766	4,842	(NA)	26,922
October	1,096	63,982	24,439	5,170	(NA)	28,487

(NA) Not available.

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	OCTOBER 1972 QUANTITY PRODUCED	SEPTEMBER 1972 QUANTITY PRODUCED	OCTOBER 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	975	904	1 085
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	[6]480	439	565
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	128	110	127
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	367	355	393
2813415	ARGON, HIGH PURITY	DO	345	315	286
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	345	315	286
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	85 290	88 041	80 564
2813331	SOLID (DRY ICE)	DO	32 593	34 202	28 027
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 995	4 913	5 172
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	600	590	442
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1 099	1 160	1 278
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 296	3 163	3 452
2813440	NITROGEN, TOTAL (4)	DO	16 409	15 498	14 417
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	60	49	87
	PRODUCED FOR PIPELINE SHIPMENT	DO	9 172	8 685	7 541
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 220	1 096	1 276
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5 433	5 155	4 977
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	[8]374	332	370
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	150	181	166
2813450	OXYGEN, TOTAL	DO	32 029	29 399	25 236
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	246	216	121
	PRODUCED FOR PIPELINE SHIPMENT	DO	22 276	20 497	17 056
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	4 307	4 173	[5]
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4 450	3 659	3 639
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO			550
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	750	854	[5]3 870

([1])Excludes quantities of acetylene produced and consumed by railroad shops' shipyards' and small establishments using portable generators. ([2])Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea. ([3])Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey. ([4])Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives. ([5])Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies. ([6])Imputation rate exceeds 25 percent.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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The data are not adjusted for seasonal variation or number of working days.

RELATED REPORTS

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An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

November 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

February 1973

SERIES: M28C(72)-11

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide soild (281331) (Short tons)	Hydrogen high and low purity (100%) (Mil. cu. ft.)	Nitrogen high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1972						
November	974	82,756	26,137	4,878	16,281	30,613
October	978	85,290	31,732	4,990	16,726	31,672
September	904	88,041	34,202	4,913	15,498	29,399
August	943	92,964	37,022	4,619	15,965	29,095
July	925	86,507	36,137	4,874	15,676	28,920
June	953	92,604	35,941	4,932	15,145	29,388
May	893	90,229	33,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,088	80,886	22,684	4,779	14,303	26,250
November	1,117	79,590	24,622	4,678	13,960	24,835
October	1,085	80,564	28,027	5,172	14,417	25,236
September	1,018	82,850	29,575	4,380	13,504	23,737
August	1,035	86,578	34,025	4,686	13,495	21,596
July	1,019	85,944	33,094	4,655	13,663	26,423
June	1,024	82,979	29,871	4,628	13,900	26,738
May	1,051	76,849	27,467	4,694	14,170	29,674
April	1,086	79,333	25,734	4,634	13,503	28,649
March	830	74,885	21,751	4,698	14,231	29,976
February	1,027	73,107	19,100	4,217	12,720	27,559
January	956	71,181	19,407	4,418	13,353	28,479
1970						
December	1,056	62,248	19,546	4,999	(NA)	27,503
November	1,085	61,409	20,766	4,842	(NA)	26,922

(NA) Not available.

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	NOVEMBER 1972 QUANTITY PRODUCED	OCTOBER 1972 QUANTITY PRODUCED	NOVEMBER 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	974	978	1 117
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	[6] 478	481	566
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	124	130	129
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	372	367	422
2813415	ARGON, HIGH PURITY	DO	352	342	271
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	352	342	271
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	82 756	85 290	79 590
2813331	SOLID (DRY ICE)	DO	26 137	31 732	24 622
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 878	4 990	4 678
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	632	600	464
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1 027	1 094	951
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 219	3 296	3 263
2813440	NITROGEN, TOTAL (4)	DO	16 281	16 726	13 960
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	68	60	90
	PRODUCED FOR PIPELINE SHIPMENT	DO	9 442	9 500	7 604
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 217	1 220	1 248
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5 025	5 395	4 497
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	388	389	350
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	141	162	171
2813450	OXYGEN, TOTAL	DO	30 903	31 672	24 835
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	216	246	163
	PRODUCED FOR PIPELINE SHIPMENT	DO	21 392	21 953	16 837
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	4 387	4 307	[5]
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	3 988	4 419	3 207
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	920	747	591
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			[5] 4 037

([1])Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators. ([2])Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea. ([3])Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey. ([4])Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives. ([5])Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies. ([6])Imputation rate exceeds 25 percent.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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EXPLANATION OF TERMS

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UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

December 1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

March 1973

SERIES: M28C(72)-12

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1970 to 1972**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide liquid and gas (2813311) (Short tons)	Carbon dioxide solid (281331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1972						
December	936	75,962	r22,539	4,833	17,007	31,288
November	976	77,009	r21,741	4,852	16,483	30,677
October	978	85,290	31,732	4,990	16,726	31,672
September	904	88,041	34,202	4,913	15,498	29,399
August	943	92,964	37,022	4,619	15,965	29,095
July	925	86,507	36,137	4,874	15,676	28,920
June	953	92,604	35,941	4,932	15,145	29,388
May	893	90,229	33,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,088	80,886	22,684	4,779	14,303	26,250
November	1,117	79,590	24,622	4,678	13,960	24,835
October	1,085	80,564	28,027	5,172	14,417	25,236
September	1,018	82,850	29,575	4,380	13,504	23,737
August	1,035	86,578	34,025	4,380	13,495	21,596
July	1,019	85,944	33,094	4,655	13,663	26,423
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February	1,027	73,107	19,100	4,217	12,720	27,559
January	956	71,181	19,407	4,418	13,353	28,479
1970						
December	1,056	62,248	19,546	4,999	(NA)	27,503

(NA) Not available.
r Revised by 5 percent or more from previously published figures.

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	DECEMBER 1972 QUANTITY PRODUCED	NOVEMBER 1972 QUANTITY PRODUCED	DECEMBER 1971 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	936	976	1 088
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	453	478	555
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	119	126	131
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	364	372	402
2813415	ARGON, HIGH PURITY	DO	341	350	286
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	341	350	286
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	75 962	r77 009	80 886
2813331	SOLID (DRY ICE)	DO	22 539	r21 741	22 684
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4 833	4 852	4 779
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	} 509	631	417
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	} 1 064	993	1 015
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3 260	3 228	3 347
2813440	NITROGEN, TOTAL (4)	DO	17 007	16 483	14 303
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	68	68	99
	PRODUCED FOR PIPELINE SHIPMENT	DO	9 990	9 644	8 042
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1 312	1 214	1 254
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5 105	5 032	4 343
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	371	388	387
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	161	137	178
2813450	OXYGEN, TOTAL	DO	31 288	30 677	26 250
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	223	220	121
	PRODUCED FOR PIPELINE SHIPMENT	DO	21 584	21 176	18 002
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	4 466	4 382	(5)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4 178	3 979	3 418
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	} 837	920	542
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			5 4 167

rRevised by 5 percent or more from previously published figures.

[1]Excludes quantities of acetylene produced and consumed by railroad ships, shipyards, and small establishments using portable generators. [2]Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea. [3]Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey. [4]Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives. [5]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual monthly movements for nonrespondents may or may not closely agree with the imputed movements. The probable range of difference between the actual and imputed figures is unknown. The degree of uncertainty regarding the accuracy of the data however, increases as the percentage of imputation increases. Figures with high imputation rates, therefore, should be used with caution.

Statistics for previous months may be revised, due to receipt of corrected data from respondents, including late reports for which estimates were made, and other corrections. Figures which were revised significantly are indicated by footnotes.

The data are not adjusted for seasonal variation or number of working days.

RELATED REPORTS

Monthly Current Industrial Report, Inorganic Chemicals, Series M28A, includes production and stock data for specified inorganic chemicals. Monthly CIR report, Inorganic Fertilizer Materials and Related Acids, Series M28B, includes production and stock data for ammonia and ammonia compounds, phosphatic fertilizers, and sulfuric acid.

An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

CURRENT INDUSTRIAL REPORTS

Industrial Gases

Summary for 1972

(Preliminary)

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

May 1973

SERIES: M28C(72)-13

Annual data for 1972 and 1971 shown in this release are a compilation of the monthly figures which have been appearing in this series. The figures for 1972 should be considered as preliminary and subject to revisions based on information furnished on Form MA-28E.2, Annual Report on Shipments and Production of Industrial Gases.

The statistics presented in the accompanying tables are for primary production, covering quantities produced for further processing in the same plant, for intra-company transfer, and for sale. They provide an up-to-date measure of activity in the inorganic field but do not necessarily indicate amounts entering the market. In some cases figures are included for material produced "in process" as an intermediate to the end products.

ACKNOWLEDGMENTS--This report was prepared in the Industry Division under the direction of Lonnie M. Conner, Chief, Chemicals and Wood Products Branch. Doris W. Funk, Chief, Chemicals, assisted by John P. Govoni, was directly responsible for the review of the data and preparation of the report. Elmer S. Biles, Chief of the Division, and Louis J. Owen, Assistant Division Chief for Commodity and Industry Programs, provided overall direction and coordination of this project.

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy–$1.50 per year.

PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC code	Chemical and basis	Unit of measure	Production	
			1972	1971
2813200	Acetylene[1]	Mil. cu. ft.	11,457	12,336
	Produced for pipeline shipment (excluding that shipped to be compressed)	do.	5,751	6,169
	Produced for compression, including cylinder and pipeline	do.	1,441	1,518
	Produced for consumption in this plant	do.	4,265	4,649
2813415	Argon, high purity	do.	3,753	3,009
	Produced for cylinder and bulk delivery shipment	do.	3,753	3,009
	Produced for pipeline shipment	do.	-	-
	Produced for consumption in this plant	do.	-	-
	Carbon dioxide:			
2813311	Liquid and gas[2]	S. tons	988,012	954,656
2813331	Solid (dry ice)	do.	356,112	315,357
2813420	Hydrogen, total[3]	Mil. cu. ft.	58,043	55,639
	Produced for cylinder and bulk delivery shipment	do.	7,076	5,312
	Liquid produced for coversion to gas	do.		
	Produced for pipeline shipment	do.	12,021	12,312
	Liquid produced for government use	do.		
	Produced for consumption in this plant	do.	38,946	38,016
2813440	Nitrogen, total[4]	do.	185,351	165,219
	Gas:			
	Produced for cylinder and bulk delivery shipment	do.	1,013	1,026
	Produced for pipeline shipment	do.	104,915	90,920
	Produced for consumption in this plant	do.	13,344	14,881
	Liquid:			
	Produced for cylinder and bulk delivery shipment	do.	59,111	52,554
	Produced for bulk shipment to pipelines or to other air separation plants	do.	6,968	4,091
	Produced for consumption in this plant	do.		1,747
2813450	Oxygen, total[4]	do.	352,144	319,152
	Gas:			
	Produced for cylinder and bulk delivery shipment	do.	([5])	1,451
	Produced for pipeline shipment	do.	244,174	218,504
	Produced for consumption in this plant	do.	47,971	([6])
	Liquid:			
	Produced for cylinder and bulk delivery shipment	do.	[5]46,867	39,186
	Produced for bulk shipment to pipelines or to other air separation plants	do.	13,132	9,711
	Produced for consumption in this plant	do.		[6]50,301

(NA) Not available.

[1]Excludes quantities of acetylene produced and consumed by railroad ships, shipyards, and small establishments using portable generators.

[2]Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plant manufacturing soda ash or urea.

[3]Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use.

[4]Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives.

[5]Data for oxygen (gas), produced for cylinder and bulk delivery shipment, combines with data for oxygen (liquid), produced for cylinder and bulk delivery shipment, to avoid disclosing figures for individual companies.

[6]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies.

UNITED STATES
DEPARTMENT OF
COMMERCE
PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

1972

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

July 1973

SERIES: M28C(72)-14

Shipments of industrial gases by primary manufacturers in 1972 totaled $599 million, or about 2 percent less than the 1971 figure of $609 million. The 1972 total is composed of $95 million for acetylene; $39 million for carbon dioxide; and $465 million for the product grouping elemental gases and other industrial gases, n.e.c. Compared with 1971, the 1972 totals showed a 9 percent decrease for acetylene, an increase on 1 percent for carbon dioxide, and a decrease of 1 percent for other elemental gases.

Figures in this report exclude values for hydrocarbon gases, such as propane, butane and propylene, or halogenated hydrocarbons and cyclopropane, which are reported to the United States Tariff Commission, and for sulfur dioxide and chlorine, which are shown in the Current Industrial Reports, Series M28A(72)-14, Inorganic Chemicals and Gases.

The shipments values for some of the gases, particularly oxygen, reported by companies vary widely not only because of the conditions of sales, including delivery by pipeline or cylinder, but also because plant operations differ. The manufacturing and selling activities of some companies are centralized at the primary production site, while other companies sell or ship liquefied gases to other sites (filling stations or conversion units) where the products are changed in form, "packaged," and sold. The values reported for some sites thus include marketing activities and for other sites do not.

Figures showing the quantities shipped to other plants of the same company (interplant transfers) were not compiled separately and thus are unavailable. In evaluating these interplant transfers for inclusion in the totals, respondents were instructed to report values which would approximate the commercial selling value, f.o.b. plant, and not the cost of production or some other book price.

Beginning in 1971, respondents were requested to report production either by specific methods of shipment or consumption in the producing plants for selected elemental gases and acetylene. Data for hydrogen, nitrogen and oxygen include lower purity and high purity gas. Prior to 1971, lower purity gas was collected separately. Statistics for crude argon are collected separately. Special reporting instructions are also provided for carbon dioxide producers so that the chemical produced and shipped is reported only once, either in solid or liquid (including gaseous) form. Statistics exclude such activities as the liquefaction of purchased nitrogen. The quantities reported as produced exclude any information for gases used as fuel in

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producing plant, vented, or disposed of as waste. Other limitations of the statistics are indicated in footnotes appearing at the end of table 1.

In addition to the annual production statistics shown in table 1, monthly statistics for specified gases are shown in table 8. These monthly statistics supersede those which were released earlier in the monthly Current Industrial Reports, Series M28C, Industrial Gases, United States Production. Monthly and annual statistics have been issued beginning with January 1941. Geographic totals for specific gases are shown in tables 2 through 7. The geographic distribution of industrial gas plants by State is shown in table 9.

All figures included in this report are collected in thousand cubic feet, 70 F, at 1 atmosphere pressure, unless otherwise specified.

ACKNOWLEDGMENTS--This report was prepared in the Industry Division under the direction of Lonnie M. Conner, Chief for Chemicals, Wood Products, and Nonmetallic Minerals Branch. Doris W. Funk, Chief, Chemicals, assisted by John P. Govoni, was directly responsible for the review of the data and preparation of the report. Elmer S. Biles, Chief of the Division, provided overall direction and coordination to this project.

Table 1.--ANNUAL PRODUCTION AND SHIPMENTS OF INDUSTRIAL GASES: 1968 TO 1972

Code	Product	Unit of measure	Year	Quantity produced for all purposes	Total shipments including transfers quantity	Total shipments including transfers value ($1,000)
2813---	Industrial gases, total		1972	(X)	(X)	r598,774
			1971	(X)	(X)	r 1609,052
			1970	(X)	(X)	1633,602
			1969	(X)	(X)	1623,114
			1968	(X)	(X)	1607,521
2813200	Acetylene[2]	Mil.cu.ft.	1972	11,568	7,238	94,524
			1971	r12,349	r7,718	r102,592
			1970	14,834	8,926	98,952
			1969	15,818	9,372	98,542
			1968	15,071	8,151	89,025
	Produced for pipeline shipment excluding that shipped to be compressed	...do....	1972	5,738	5,736	52,069
			1971	r6,185	r6,185	r58,343
	Produced for compression, including cylinder and pipeline	...do....	1972	1,507	1,502	42,455
			1971	r1,515	r1,533	r44,249
	Produced for consumption in this plant	...do....	1972	4,323	(X)	(X)
			1971	4,649	(X)	(X)
	Carbon dioxide, total	Short tons	1972	1,481,287	1,371,459	39,159
			1971	r1,344,026	r1,235,442	r38,963
			1970	1,135,454	1,028,290	37,142
			1969	1,166,611	1,079,401	40,627
			1968	1,058,120	943,466	41,774
2813311	Liquid and gas	...do....	1972	31,174,748	1,064,808	23,367
			1971	31,027,327	920,575	r21,373
			1970	3814,810	710,743	19,467
			1969	3802,429	714,629	20,915
			1968	3684,014	575,945	22,491
2813331	Solid (dry ice)	...do....	1972	306,539	306,651	15,792
			1971	r316,699	314,867	17,590
			1970	320,644	317,547	17,675
			1969	364,182	364,772	19,712
			1968	374,106	367,521	19,283
28134--	Elemental gases and other industrial gases, n.e.c., total	.....	1972	(X)	(X)	r465,091
			1971	(X)	(X)	r467,497
			1970	(X)	(X)	497,508
			1969	(X)	(X)	483,945
			1968	(X)	(X)	476,722
2813415	Argon, high purity, total	Mil.cu.ft.	1972	3,804	3,804	33,096
			1971	r3,048	r3,042	r29,136
			1970	2,742	2,741	39,140
			1969	2,597	2,596	38,659
			1968	2,114	2,113	33,162
	Produced for cylinder and bulk delivery shipment	...do....	1972	3,804	3,804	33,096
			1971	r3,048	r3,042	r29,136
	Helium[4]	...do....	1972	(NA)	(NA)	(NA)
			1971	4,565	447	(NA)
			1970	4,600	542	(NA)
			1969	4,662	670	(NA)
			1968	4,658	802	(NA)
2813420	Hydrogen, total	...do....	1972	558,890	r17,952	r30,323
			1971	555,681	r17,470	r31,703
			1970	559,654	20,940	35,380
			1969	564,821	25,456	38,101
			1968	5201,752	28,255	37,822
	Produced for cylinder and bulk delivery shipment	...do....	1972	5,463	5,458	19,774
			1971	r5,304	r5,297	r19,402
	Liquid produced for conversion to gas	...do....				
	Produced for pipeline shipment	...do....	1972	12,834	12,494	10,549
			1971	r12,330	r12,173	r12,301
	Liquid produced for government use	...do....				
	Produced for consumption in this plant	...do....	1972	40,593	(X)	(X)
			1971	r38,047	(X)	(X)
2813440	Nitrogen, total[6]	...do....	1972	r 7193,540	r 7176,833	r 7130,358
			1971	r 7168,040	r 7153,758	r 7128,117
			1970	151,191	134,925	8123,032
			1969	132,691	118,305	8118,635
			1968	118,731	105,370	8114,777
	Gas:					
	Produced for cylinder and bulk delivery shipment	...do....	1972	771	750	3,030
			1971	r635	r642	r2,392
	Produced for pipeline shipment	...do....	1972	112,239	112,139	30,399
			1971	r94,238	r95,620	r28,250
	Produced for comsumption in this plant	...do....	1972	14,950	(X)	(X)
			1971	r13,977	(X)	(X)

See footnotes at end of table.

Table 1.--ANNUAL PRODUCTION AND SHIPMENTS OF INDUSTRIAL GASES: 1968 TO 1972--Continued

Code	Product	Unit of measure	Year	Quantity produced for all purposes	Total shipments including transfers quantity	Total shipments including transfers value ($1,000)
	Elemental gases and other industrial gases, n.e.c.--Continued					
	Nitrogen[6]--Continued					
	Liquid:					
	Produced for cylinder and bulk delivery shipment	Mil.cu.ft.	1972	r58,951	r58,853	r92,254
			1971	r53,183	r53,183	r93,077
	Produced for bulk shipment to pipelines or to other air separation plants	...do....	1972	5,095	r5,091	r4,675
			1971	4,319	r4,313	r4,398
	Produced for consumption in this plant	...do....	1972	1,534	(X)	(X)
			1971	r1,688	(X)	(X)
2813450	Oxygen, total[6]	...do....	1972	[7]353,190	[7]301,756	[7]216,763
			1971	r [7]319,171	r [7]268,882	r [7]226,250
			1970	283,860	273,465	[8]237,675
			1969	275,962	264,958	[8]229,454
			1968	247,995	238,408	[8]224,867
	Gas:					
	Produced for cylinder and bulk delivery shipment	...do....	1972	r530	r540	r4,361
			1971	r499	r499	r4,250
	Produced for pipeline shipments	...do....	1972	r246,963	r246,998	r119,003
			1971	r218,176	r218,187	r107,369
	Produced for consumption in this plant	...do....	1972	([9])	(X)	(X)
			1971	([9])	(X)	(X)
	Liquid:					
	Produced for cylinder and bulk delivery shipments	...do....	1972	r43,943	r43,943	r81,239
			1971	r40,559	r40,559	r95,484
	Produced for bulk shipment to pipeline or to other air separation plants	...do....	1972	r10,275	r10,275	r12,160
			1971	r9,637	r9,637	r19,147
	Produced for consumption in this plant	...do....	1972	[9]51,479	(X)	(X)
			1971	[9]50,300	(X)	(X)
2813471	Nitrous oxide	1,000 gals (STP)	1972	1,278,285	1,278,285	4,500
			1971	1,121,366	1,121,366	4,057
			1970	1,098,553	1,098,342	3,890
			1969	1,052,712	1,051,910	3,917
			1968	996,658	996,586	3,887
2813498	Other industrial gases, n.e.c., including crude argon, carbon dioxide produced and transferred for further processing, and crude and high purity helium produced in privately owned plants[10]	.....	1972	(X)	(X)	r50,051
			1971	(X)	(X)	r48,234
			1970	(X)	(X)	[8]58,391
			1969	(X)	(X)	[8]60,676
			1968	(X)	(X)	[8]62,207

(NA) Not available. n.e.c. Not elsewhere classified. r Revised. (X) Not applicable.

[1]Excludes value for helium produced in government owned plants.

[2]Excludes information from railroad ships, shipyards, welding shops, and small establishments using portable generators.

[3]Excludes production of liquid and gas carbon dioxide converted to and reported as dry ice and also amounts converted from pure carbon dioxide (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea, and quantities produced and transferred to other plants where it is further processed.

[4]Source: U.S. Department of Interior, Bureau of Mines.

[5]Excludes amounts vented, used as fuel, etc., and amounts produced and consumed in the manufacture of synthetic ammonia and methanol, but includes an unspecified amount produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts produced by the ammonia dissociation process (craking of ammonia). Also excludes amounts produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey.

[6]Excludes amounts produced and consumed in the manufacture of synthetic ammonia or ammonia derivatives.

[7]Data for 1972 and 1971 include figures for high and lower purity gas. Prior to 1971, data only included figures for high purity gas.

[8]Data for lower purity nitrogen and lower purity oxygen combined with code 2813498 for 1968 through 1970.

[9]Data for oxygen(gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies.

[10]Excludes hydrocarbon gases such as propane, butane, and propylene, or halogenated hydrocarbons and cyclopropane, which are reported to the U.S. Tariff Commission. Also excludes sulfur dioxide and chlorine, figures for which are shown in Current Industrial Reports Series M28A (72)-14, Inorganic Chemicals and Gases.

Table 2.--PRODUCTION AND SHIPMENTS OF ACETYLENE, BY GEOGRAPHIC AREA: 1972

Production	Production (mil. cu. ft.)	Total shipments including interplant tansfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	11,568	7,238	94,524
Northeast Region and North Central Region	1,163	949	21,957
South Region	9,930	6,031	64,490
Mountain Division	97	77	2,196
Pacific Division	378	181	5,881

[1]See table 9 for the number of establishments reporting production by State.

Table 3.--PRODUCTION AND SHIPMENTS OF CARBON DIOXIDE, BY DIVISIONS: 1972

Division	Total liquid and solid			Liquid and gas			Solid (dry ice)		
	Production (short tons)	Shipments		Production (short tons)	Shipments		Production (short tons)	Shipments	
		Quantity (short tons)	Value ($1,000)		Quantity (short tons)	Value ($1,000)		Quantity (short tons)	Value ($1,000)
UNITED STATES, TOTAL[1]	1,481,287	1,371,459	39,159	1,174,748	1,064,808	23,367	306,539	306,651	15,792
New England and Middle Atlantic	96,504	93,840	3,057	58,951	56,316	1,091	37,553	37,524	1,966
East North Central	284,751	267,115	8,373	213,981	196,345	4,245	70,770	70,770	4,128
West North Central	260,572	253,749	6,558	222,230	215,266	4,486	38,342	38,483	2,072
South Atlantic and East South Central	281,814	251,828	9,670	232,404	202,418	6,629	49,410	49,410	3,041
West South Central	296,333	249,879	5,891	275,723	229,269	4,713	20,610	20,610	1,178
Mountain	57,745	57,745	1,280	26,396	26,396	376	31,349	31,349	904
Pacific	203,568	197,303	4,330	145,063	138,798	1,827	58,505	58,505	2,503

[1]See table 9 for the number of establishments reporting production by State.

Table 4.--SHIPMENTS OF ARGON (HIGH PURITY) BY GEOGRAPHIC AREA: 1972

Geographic area	Total shipments including interplant transfers	
	Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	3,804	33,096
Northeast Region	855	6,619
East North Central Division	1,375	11,670
Ohio	464	3,964
South Atlantic Division	521	5,462
East South Central Division	101	1,212
West South Central Division	412	3,342
West Region	540	4,791
California	439	3,538

[1]See table 9 for the number of establishments reporting production by State.

Table 5.--PRODUCTION AND SHIPMENTS OF HYDROGEN (TOTAL) BY GEOGRAPHIC AREA: 1972

Geographic area	Production (mil. cu. ft.)	Total shipments including interplant transfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	58,890	17,952	30,323
Northeast Region	4,971	2,453	7,092
North Central Region	5,632	2,261	4,593
South Region and West Region	48,287	13,238	18,638
East South Central Division	5,070	1,715	1,444
West South Central Division	30,094	3,343	7,610

[1]See table 9 for the number of establishments reporting production by State.

Table 6.--PRODUCTION AND SHIPMENTS OF NITROGEN (TOTAL) BY GEOGRAPHIC AREA: 1972

Geographic area	Production (mil. cu. ft.)	Total shipments including interplant transfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	193,540	176,833	130,358
New England Division	3,141	3,104	3,807
Middle Atlantic Division	23,721	22,566	22,703
New York	3,576	3,193	3,003
New Jersey	8,563	8,519	10,657
Pennsylvania	11,582	10,854	9,043
North Central Region	39,422	37,869	31,515
Ohio	11,320	10,901	9,088
Illinois	8,503	8,252	8,616
South Atlantic Division	30,242	25,843	16,898
West Virginia	11,973	7,601	3,732
East South Central Division	12,251	10,182	9,217
Tennessee	4,718	3,156	2,386
Alabama	4,804	4,804	5,740
West South Central Division	62,323	55,670	22,864
Texas	50,107	45,839	17,195
Mountain Division	1,768	1,768	2,353
Utah	245	245	441
Pacific Division	20,672	19,831	21,001
California	19,117	19,036	19,210

[1]See table 9 for the number of establishments reporting production by State.

Table 7.--PRODUCTION AND SHIPMENTS OF OXYGEN (TOTAL) BY GEOGRAPHIC AREAS: 1971

Geographic area	Production (mil. cu. ft.)	Total shipments including interplant transfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	353,190	301,756	216,763
New England Division	1,117	1,105	2,074
Middle Atlantic Division	67,138	66,485	45,966
New York	12,132	12,075	8,048
New Jersey	2,907	2,910	5,950
Pennsylvania	52,099	51,500	31,968
North Central Region	127,251	111,528	72,960
Ohio	38,942	38,977	21,991
Michigan	19,161	10,050	6,341
South Atlantic Region	35,905	33,792	24,884
West Virginia	20,386	18,369	12,162
Florida	1,203	1,203	1,842
East South Central Division	23,260	23,187	22,060
Alabama	8,737	8,736	8,567
West South Central Division	75,230	42,738	25,287
Texas	56,535	35,291	19,506
Mountain Division	7,102	6,735	6,087
Utah	3,488	3,122	2,356
Pacific Division	16,187	16,186	17,445
California	14,888	14,888	14,978

[1]See table 9 for number of establishments reporting production by State.

Table 8.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES, BY MONTHS: 1972 AND 1971

Code	Product	Unit of measure	Year	Total	January	February	March	April	May	June	July	August	September	October	November	December
2813200	Acetylene	mil.cu.ft.	1972	11,568	1,031	1,005	1,005	925	868	969	932	961	912	984	983	993
			1971	r12,349	957	1,029	831	1,088	1,052	1,025	1,020	1,036	1,019	1,086	1,118	1,088
	Produced for pipeline shipment, excluding that produced to be compressed	....do....	1972	5,738	503	491	492	458	440	497	479	491	436	477	475	499
			1971	r6,185	436	474	361	623	551	500	515	530	506	566	567	556
	Produced for compression, including cylinder and pipeline	....do....	1972	1,507	128	136	141	124	127	121	103	120	116	135	131	125
			1971	r1,515	127	132	144	131	124	122	111	116	122	127	129	130
	Produced for consumption in this plant	....do....	1972	4,323	400	378	372	343	301	351	350	350	360	372	377	369
			1971	4,649	394	423	326	334	377	403	394	390	391	393	422	402
2813415	Argon, high purity, total	....do....	1972	3,804	282	272	316	296	328	323	318	301	318	352	353	345
			1971	r3,048	225	228	267	241	256	233	258	228	259	289	275	289
	Produced for cylinder and bulk delivery shipment	....do....	1972	3,804	282	272	316	296	328	323	318	301	318	352	353	345
			1971	r3,048	225	228	267	241	256	233	258	228	259	289	275	289
	Carbon dioxide, total	Short tons	1972	1,481,287	104,612	96,523	132,207	118,068	134,222	138,451	132,550	139,888	132,148	127,789	118,933	105,896
			1971	r1,344,026	96,756	r98,285	102,804	111,235	110,484	119,018	125,206	126,771	118,593	114,759	110,379	109,736
2813311	Liquid and gas	....do....	1972	1,174,748	85,167	74,678	107,012	92,331	105,629	108,792	101,775	109,330	103,875	101,385	97,937	86,837
			1971	r1,027,327	77,237	79,073	80,941	85,389	82,905	89,035	92,000	92,634	88,906	86,620	85,646	86,941
2813331	Solid (dry ice)	....do....	1972	306,539	19,445	21,845	25,195	25,737	28,593	29,659	30,775	30,558	28,273	26,404	20,996	19,059
			1971	r316,699	19,519	19,212	21,863	25,846	27,579	29,983	33,206	34,137	29,687	28,139	24,733	22,795
2813420	Hydrogen, total	mil.cu.ft.	1972	58,890	4,791	4,804	4,972	4,731	5,118	4,887	4,949	4,686	4,973	5,043	4,955	4,981
			1971	r55,681	4,421	4,221	4,701	4,638	4,698	4,633	4,660	4,689	4,382	5,176	4,681	4,781
	Produced for cylinder and bulk delivery shipment	....do....	1972	5,463	454	432	505	383	504	486	470	454	453	462	501	359
	Liquid produced for conversion to gas	....do....	1971	r5,304	414	404	459	498	487	465	414	450	392	442	462	417
	Produced for pipeline shipment	....do....	1972	12,834	1,015	996	1,164	998	1,186	1,048	979	1,008	1,159	1,088	1,045	1,148
	Liquid produced for government use	....do....	1971	r12,330	1,054	938	1,184	1,021	1,121	1,004	1,009	1,004	749	1,279	952	1,015
	Produced for consumption in this plant	....do....	1972	40,593	3,322	3,376	3,303	3,350	3,428	3,353	3,500	3,224	3,361	3,493	3,409	3,474
			1971	r38,047	2,953	2,879	3,058	3,119	3,090	3,164	3,237	3,235	3,241	3,455	3,267	3,349
2813440	Nitrogen, total	....do....	1972	193,540	15,118	14,804	15,899	14,976	15,936	15,994	16,411	16,697	16,302	17,260	16,827	17,316
			1971	r168,040	13,594	12,957	14,469	13,736	14,407	14,134	13,894	13,729	13,741	14,650	14,192	14,537
	Gas: Produced for cylinder and bulk delivery shipment	....do....	1972	771	49	66	72	73	75	73	59	59	48	59	69	69
			1971	r635	42	62	59	65	58	59	52	33	28	53	57	67
	Produced for pipeline shipment	....do....	1972	112,239	9,005	8,539	9,210	8,796	9,189	9,150	9,311	9,640	9,421	9,944	9,866	10,168
			1971	r94,238	7,907	7,521	8,226	7,974	8,140	8,007	7,626	7,370	7,453	7,817	7,880	8,317
	Produced for consumption in this plant	....do....	1972	14,950	1,110	1,243	1,252	1,135	1,216	1,164	1,239	1,290	1,210	1,333	1,330	1,428
			1971	r13,977	1,242	1,076	1,254	1,040	1,182	1,149	1,156	1,204	1,122	1,201	1,173	1,178

Table 8.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES, BY MONTHS: 1972 AND 1971--Continued

Code	Product	Unit of Measure	Year	Total	January	February	March	April	May	June	July	August	September	October	November	December
	Nitrogen--Continued															
	Liquid:															
	Produced for cylinder and bulk delivery.....	mil.cu.ft.	1972	58,951	4,393	4,362	4,757	4,435	4,949	5,033	5,285	5,116	5,139	5,378	5,015	5,089
			1971	53,183	3,877	3,816	4,476	4,191	4,569	4,446	4,603	4,601	4,630	5,029	4,549	4,396
	Produced for bulk shipment to pipelines or to other air separation plants.....	....do....	1972	5,095	466	465	492	430	380	411	382	459	362	422	417	409
			1971	r4,319	417	375	347	362	303	312	315	361	364	389	368	406
	Produced for consumption in this plant.....	....do....	1972	1,534	95	129	116	107	127	163	135	133	122	124	130	153
			1971	1,688	109	107	107	104	155	161	142	160	144	161	165	173
2813450	Oxygen, total.....	....do....	1972	353,190	27,452	26,540	28,771	28,879	30,085	29,263	20,014	29,064	29,269	31,796	30,992	32,065
			1971	319,171	28,522	27,588	29,977	28,636	29,662	26,744	26,408	21,603	23,733	25,237	24,809	26,252
	Gas:															
	Produced for cylinder and bulk delivery shipment.....	....do....	1972	530	41	38	40	44	41	41	36	40	36	64	55	54
			1971	r499	21	27	44	48	46	41	48	38	46	43	55	42
	Produced for pipeline shipment.....	....do....	1972	246,963	19,223	18,205	19,699	20,285	21,162	20,339	20,439	20,822	20,522	22,205	21,605	22,457
			1971	r218,176	19,654	18,916	21,344	19,954	20,748	18,515	18,176	13,596	15,458	17,029	16,811	17,975
	Produced for consumption in this plant.....	....do....	1972	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
			1971	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	Liquid:															
	Produced for cylinder and bulk delivery shipment.....	....do....	1972	43,943	3,248	3,340	3,558	3,420	3,774	3,555	3,400	3,403	3,639	4,426	3,980	4,200
			1971	r40,559	3,128	3,089	3,768	3,484	3,450	3,087	3,406	3,126	3,416	3,752	3,321	3,532
	Produced for bulk shipment to pipelines or to other air separation plants.....	....do....	1972	10,275	656	824	993	928	849	855	891	904	863	759	924	829
			1971	r9,637	995	1,099	1,044	993	929	990	670	567	686	543	585	536
	Produced for consumption in this plant.....	....do....	1972	1/51,479	4,284	4,133	4,481	4,202	4,259	4,473	4,248	3,895	4,209	4,342	4,428	4,525
			1971	1/50,300	4,724	4,457	3,777	4,157	4,489	4,111	4,108	4,276	4,127	3,870	4,037	4,167

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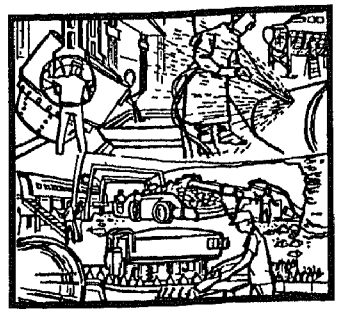
1/ Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies.

Table 9.--NUMBER OF ESTABLISHMENTS REPORTING THE PRODUCTION OF SELECTED INDUSTRIAL GASES, BY STATE: 1972

State	Acetylene 2813200	Carbon dioxide			Argon (refined) 2813415	Hydrogen 2813420	Nitrogen 2813440	Oxygen 2813450	Nitrous oxide 2813471
		Total[1] 28133	Liquid or gas[2] 2813311	Solid 2813331					
UNITED STATES, TOTAL	206	59	46	34	52	122	139	117	4
New England	6	1	-	1	1	3	6	5	-
Maine	-	-	-	-	-	1	-	1	-
New Hampshire	-	-	-	-	-	-	-	-	-
Vermont	-	-	-	-	-	-	1	-	-
Massachusetts	3	1	-	1	1	1	4	3	-
Rhode Island	1	-	-	-	-	-	1	-	-
Connecticut	2	-	-	-	-	1	-	1	-
Middle Atlantic	20	4	2	2	6	15	16	16	-
New York	6	2	2	-	1	4	5	4	-
New Jersey	4	1	0	1	2	8	6	5	-
Pennsylvania	10	1	-	1	3	3	5	7	-
East North Central	37	6	4	4	14	28	29	25	1
Ohio	14	3	2	3	6	7	6	7	1
Indiana	6	1	1	-	2	3	3	3	-
Illinois	5	1	-	1	3	12	12	7	-
Michigan	8	-	-	-	3	6	6	7	-
Wisconsin	4	1	1	-	-	-	2	1	-
West North Central	17	10	8	5	-	4	7	6	1
Minnesota	3	2	1	1	-	-	1	2	-
Iowa	3	4	4	2	-	-	-	-	-
Missouri	2	2	1	1	-	2	3	2	1
North Dakota	-	-	-	-	-	-	-	-	-
South Dakota	3	-	-	-	-	-	1	2	-
Nebraska	1	-	-	-	-	1	-	-	-
Kansas	5	2	2	1	-	1	2	-	-
South Atlantic	27	7	6	4	8	15	23	16	1
Delaware	-	-	-	-	1	4	2	2	-
Maryland	2	-	-	-	1	-	3	2	-
District of Columbia	-	-	-	-	-	-	-	-	-
Virginia	4	1	1	1	1	2	3	2	1
West Virginia	4	1	1	1	2	5	5	5	-
North Carolina	4	1	1	-	1	1	3	1	-
South Carolina	1	-	-	-	-	-	3	1	-
Georgia	4	1	1	1	1	2	2	1	-
Florida	8	3	2	1	1	1	2	2	-
East South Central	15	3	3	1	4	16	17	12	-
Kentucky	2	1	1	-	-	4	5	3	-
Tennessee	8	2	2	1	2	8	7	4	-
Alabama	4	-	-	-	2	3	4	4	-
Mississippi	1	-	-	-	-	1	1	1	-
West South Central	43	11	10	4	9	24	18	17	-
Arkansas	2	-	-	-	1	-	1	1	-
Louisiana	8	4	3	2	3	6	6	6	-
Oklahoma	3	-	-	-	-	1	-	-	-
Texas	30	7	7	2	5	17	11	10	-
Mountain	18	6	4	6	2	2	8	8	-
Montana	3	-	-	-	-	-	1	1	-
Idaho	2	-	-	-	-	-	-	-	-
Wyoming	1	-	-	-	-	-	-	-	-
Colorado	5	2	1	2	1	1	2	2	-
New Mexico	2	2	2	2	-	-	-	-	-
Arizona	1	-	-	-	-	-	2	2	-
Utah	3	2	1	2	1	1	3	3	-
Nevada	1	-	-	-	-	-	-	-	-
Pacific	23	11	9	7	8	15	15	12	1
Washington	5	2	2	2	1	2	3	2	-
Oregon	4	-	-	-	1	1	1	1	-
California	11	6	4	4	6	10	9	7	1
Alaska	1	-	-	-	-	-	-	-	-
Hawaii	2	3	3	1	-	2	2	2	-

-Represents zero.
[1]Unduplicated.
[2]Excludes plants converting entire production to solid.

CURRENT INDUSTRIAL REPORTS



Industrial Gases

January 1973

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

April 1973

SERIES: M28C(73)-1

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1971 to 1973**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
January	965	84,127	21,304	4,592	17,399	32,269
1972						
December	938	75,963	22,539	4,833	17,007	31,931
November	976	77,009	21,741	4,852	16,483	30,677
October	978	85,290	31,732	4,990	16,726	31,672
September	904	88,041	34,202	4,913	15,498	29,399
August	943	92,964	37,022	4,619	15,965	29,095
July	925	86,507	36,137	4,874	15,676	28,920
June	953	92,604	35,941	4,932	15,145	29,388
May	893	90,229	33,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,088	80,886	22,684	4,779	14,303	26,250
November	1,117	79,590	24,622	4,678	13,960	24,835
October	1,085	80,564	28,027	5,172	14,417	25,236
September	1,018	82,850	29,575	4,380	13,504	23,737
August	1,035	86,578	34,025	4,380	13,495	21,596
July	1,019	85,944	33,094	4,655	13,663	26,423
June	1,024	82,979	29,871	4,628	13,900	26,738
May	1,051	76,849	27,467	4,694	14,170	29,674
April	1,086	79,333	25,734	4,634	13,503	28,649
March	830	74,885	21,751	4,698	14,231	29,976
February	1,027	73,107	19,100	4,217	12,720	27,559
January	956	71,181	19,407	4,418	13,353	28,479

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	JANUARY 1973 QUANTITY PRODUCED	DECEMBER 1972 QUANTITY PRODUCED	JANUARY 1972 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	965	938	1,023
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	473	453	506
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	132	120	122
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	360	365	395
2813415	ARGON, HIGH PURITY	DO	345	342	276
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	345	342	276
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	84,127	75,963	68,520
2813331	SOLID (DRY ICE)	DO	21,304	22,539	22,299
2813420	HYDROGEN:TOTAL (3)	MIL.CU.FT	4,592	4,833	4,728
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	472	509	537
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	832	1,054	859
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3,288	3,270	3,282
2813440	NITROGEN, TOTAL (4)	DO	17,399	17,007	14,351
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	89	68	233
	PRODUCED FOR PIPELINE SHIPMENT	DO	10,770	9,990	8,127
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,373	1,312	996
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	4,675	5,105	4,408
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	350	371	587
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	142	161	
2813450	OXYGEN, TOTAL	DO	32,269	31,931	27,275
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	210	r207	(6)
	PRODUCED FOR PIPELINE SHIPMENT	DO	22,936	r22,243	18,946
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	4,466	3,714
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4,034	4,178	6 3,630
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	772	837	985
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	5 4,317		

rRevised by 5 percent or more from previously published figures.

[1]Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators. [2]Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea. [3]Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey. [4]Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives. [5]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies. [6]Oxygen gas, produced for cylinder and bulk delivery shipments combined with oxygen liquid, produced for cylinder and bulk delivery shipments.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

The current month's figures may include estimates for respondents whose reports were not received in time for tabulation. Such estimates are based on month-to-month trends shown by reporting firms and are generally limited to a maximum of 25 percent for any one item. Individual items with higher imputation rates are footnoted.

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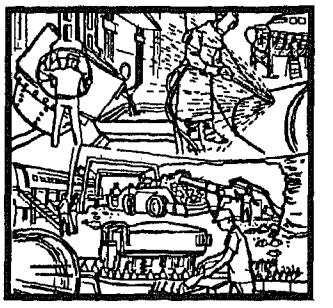
CURRENT INDUSTRIAL REPORTS

Industrial Gases

February 1973



U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

May 1973

SERIES: M28C(73)-2

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1971 to 1973**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (281331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
February	836	75,415	18,860	4,235	16,824	30,323
January	965	80,592	21,304	4,674	17,713	31,084
1972						
December	938	75,963	22,539	4,833	17,007	31,931
November	976	77,009	21,741	4,852	16,483	30,677
October	978	85,290	31,732	4,990	16,726	31,672
September	904	88,041	34,202	4,913	15,498	29,399
August	943	92,984	37,022	4,619	15,965	29,095
July	925	86,507	36,137	4,874	15,676	28,920
June	953	92,604	35,941	4,932	15,145	29,388
May	893	90,229	33,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,088	80,886	22,684	4,779	14,303	26,250
November	1,117	79,590	24,622	4,678	13,960	24,835
October	1,085	80,564	28,027	5,172	14,417	25,236
September	1,018	82,850	29,575	4,380	13,504	23,737
August	1,035	86,578	34,025	4,380	13,495	21,596
July	1,019	85,944	33,094	4,655	13,663	26,423
June	1,024	82,979	29,871	4,628	13,900	26,738
May	1,051	76,849	27,467	4,694	14,170	29,674
April	1,086	79,333	25,734	4,634	13,503	28,649
March	830	74,885	21,751	4,698	14,231	29,976
February	1,027	73,107	19,100	4,217	12,720	27,559

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	FEBRUARY 1973 QUANTITY PRODUCED	JANUARY 1973 QUANTITY PRODUCED	FEBRUARY 1972 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	836	965	1,002
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	367	473	500
	PRODUCED FOR COMPRESSION: INCLUDING CYLINDER AND PIPELINE	DO	121	132	130
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	348	360	372
2813415	ARGON: HIGH PURITY	DO	334	318	266
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	334	318	266
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	75,415	80,592	65,870
2813331	SOLID (DRY ICE)	DO	18,860	21,304	22,941
2813420	HYDROGEN: TOTAL (3)	MIL.CU.FT	4,235	4,674	4,749
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	421	472	572
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	882	905	980
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	2,932	3,297	3,197
2813440	NITROGEN: TOTAL (4)	DO	16,824	17,713	13,987
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	171	89	73
	PRODUCED FOR PIPELINE SHIPMENT	DO	9,393	10,773	7,796
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,720	1,377	1,129
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,028	4,555	4,378
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	438	337	611
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	74	142	
2813450	OXYGEN: TOTAL	DO	30,323	31,084	26,240
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	201	210	(6)
	PRODUCED FOR PIPELINE SHIPMENT	DO	21,309	20,969	17,940
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	3,526
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	3,742	3,864	6 3,573
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	820	706	1,201
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	5 4,251	5 4,504	

r Revised by 5 percent or more from previously published figures.

[1] Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators. [2] Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea. [3] Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey. [4] Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives. [5] Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies. [6] Oxygen gas, produced for cylinder and bulk delivery shipments combined with oxygen liquid, produced for cylinder and bulk delivery shipments.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

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CURRENT INDUSTRIAL REPORTS

Industrial Gases

March 1973

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

June 1973

SERIES: M28C(73)-3

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1971 to 1973**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (2813331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
March	719	86,315	21,343	4,824	18,463	32,729
February	855	78,450	19,116	4,235	16,969	29,286
January	965	80,592	21,304	4,674	17,713	31,084
1972						
December	938	75,963	22,539	4,833	17,007	31,931
November	976	77,009	21,741	4,852	16,483	30,677
October	978	85,290	31,732	4,990	16,726	31,672
September	904	88,041	34,202	4,913	15,498	29,399
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December	1,088	80,886	22,684	4,779	14,303	26,250
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March	830	74,885	21,751	4,698	14,231	29,976

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2813200	ACETYLENE (1)	MIL.CU.FT	719	855	997
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	287	r388	503
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	129	120	135
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	303	347	359
2813415	ARGON, HIGH PURITY	DO	365	335	311
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	365	335	311
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	86,315	78,450	87,702
2813331	SOLID (DRY ICE)	DO	21,343	19,116	27,579
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4,824	4,235	4,810
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	505	349	648
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	917	874	926
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3,402	3,012	3,236
2813440	NITROGEN, TOTAL (4)	DO	18,463	16,969	15,437
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	114	r112	82
	PRODUCED FOR PIPELINE SHIPMENT	DO	10,507	r9,871	8,670
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,527	r1,448	1,140
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,721	5,010	4,809
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	518	r459	736
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	76	r69	
2813450	OXYGEN, TOTAL	DO	32,729	29,286	28,713
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	232	202	(6)
	PRODUCED FOR PIPELINE SHIPMENT	DO	23,325	20,387	19,426
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	4,057
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4,042	3,762	6,3,867
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	974	r868	971
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	5,4,156	5,4,067	392

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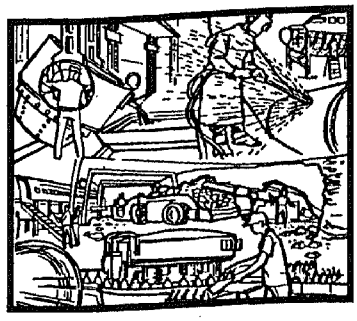
CURRENT INDUSTRIAL REPORTS



Industrial Gases

April 1973

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

July 1973

SERIES: M28C(73)-4

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Table 1. **Summary of Production of Principal Gases: 1971 to 1973**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (2813331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
April	661	79,999	22,564	4,641	18,032	31,239
March	717	86,164	21,379	4,958	18,544	32,945
February	855	78,450	19,116	4,235	16,969	29,286
January	965	80,592	21,304	4,674	17,713	31,084
1972						
December	938	75,963	22,539	4,833	17,007	31,931
November	976	77,009	21,741	4,852	16,483	30,677
October	978	85,290	31,732	4,990	16,726	31,672
September	904	88,041	34,202	4,913	15,498	29,399
August	943	92,964	37,022	4,619	15,965	29,095
July	925	86,507	36,137	4,874	15,676	28,920
June	953	92,604	35,941	4,932	15,145	29,388
May	893	90,229	33,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
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February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
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December	1,088	80,886	22,684	4,779	14,303	26,250
November	1,117	79,590	24,622	4,678	13,960	24,835
October	1,085	80,564	28,027	5,172	14,417	25,236
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July	1,019	85,944	33,094	4,655	13,663	26,423
June	1,024	82,979	29,871	4,628	13,900	26,738
May	1,051	76,849	27,467	4,694	14,170	29,674
April	1,086	79,333	25,734	4,634	13,503	28,649

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2813200	ACETYLENE (1)	MIL.CU.FT	661	717	917
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	289	287	470
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	123	127	118
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	249	303	329
2813415	ARGON, HIGH PURITY	DO	362	r355	293
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	362	r355	293
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	79,999	86,164	77,313
2813331	SOLID (DRY ICE)	DO	22,564	21,379	30,848
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4,641	4,958	4,669
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	358	513	529
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1,135	r1,058	979
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3,148	3,387	3,161
2813440	NITROGEN, TOTAL (4)	DO	18,032	18,544	14,164
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	85	114	82
	PRODUCED FOR PIPELINE SHIPMENT	DO	10,426	10,532	8,060
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,481	1,527	1,021
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,498	5,715	4,451
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	416	r518	550
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	126	r138	
2813450	OXYGEN, TOTAL	DO	31,239	32,945	28,691
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	203	229	(6)
	PRODUCED FOR PIPELINE SHIPMENT	DO	21,923	23,444	19,981
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	3,832
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4,152	4,066	63,626
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	921	951	1,252
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	54,040	54,255	

(NA) Not available.

rRevised by 5 percent or more from previously published figures. [1]Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators. [2]Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (Liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea. [3]Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey. [4]Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives. [5]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant to avoid disclosing figures for individual companies. [6]Oxygen gas, produced for cylinder and bulk delivery shipments combined with oxygen liquid, produced for cylinder and bulk delivery shipments.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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The data are not adjusted for seasonal variation or number of working days.

RELATED REPORTS

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An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

CURRENT INDUSTRIAL REPORTS

Industrial Gases

May 1973

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

August 1973

SERIES: M28C(73)-5

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whosereports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1971 to 1973**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (2813331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
May	659	90,310	26,686	4,873	18,947	32,036
April	661	79,999	22,219	4,680	18,035	31,627
March	717	86,164	21,379	4,958	18,544	32,945
February	855	78,450	19,116	4,235	16,969	29,286
January	965	80,592	21,304	4,674	17,713	31,084
1972						
December	938	75,963	22,539	4,833	17,007	31,931
November	976	77,009	21,741	4,852	16,483	30,677
October	978	85,290	31,732	4,990	16,726	31,672
September	904	88,041	34,202	4,913	15,498	29,399
August	943	92,964	37,022	4,619	15,965	29,095
July	925	86,507	36,137	4,874	15,676	28,920
June	953	92,604	35,941	4,932	15,145	29,388
May	893	90,229	33,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,088	80,886	22,684	4,779	14,303	26,250
November	1,117	79,590	24,622	4,678	13,960	24,835
October	1,085	80,564	28,027	5,172	14,417	25,236
September	1,018	82,850	29,575	4,380	13,504	23,737
August	1,035	86,578	34,025	4,380	13,495	21,596
July	1,019	85,944	33,094	4,655	13,663	26,423
June	1,024	82,979	29,871	4,628	13,900	26,738
May	1,051	76,849	27,467	4,694	14,170	29,674

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	MAY 1973 QUANTITY PRODUCED	APRIL 1973 QUANTITY PRODUCED	MAY 1972 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	659	661	893
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	300	289	448
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	124	123	122
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	235	249	323
2813415	ARGON, HIGH PURITY	DO	380	361	325
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	380	361	325
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	90,310	79,999	90,229
2813331	SOLID (DRY ICE)	DO	26,686	22,219	33,131
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4,873	4,680	5,124
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	} 481	353	643
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	} 1,029	1,121	1,108
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3,363	3,206	3,373
2813440	NITROGEN, TOTAL (4)	DO	18,947	18,035	14,912
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	101	85	82
	PRODUCED FOR PIPELINE SHIPMENT	DO	11,130	10,426	8,452
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,547	1,481	868
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,622	5,502	4,965
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	410	415	} 545
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	137	126	
2813450	OXYGEN, TOTAL	DO	32,036	31,627	30,353
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	204	205	(6)
	PRODUCED FOR PIPELINE SHIPMENT	DO	22,891	22,293	20,872
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	4,234
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4,547	4,137	64,122
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	990	921	} 1,125
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	53,404	54,071	

(NA) Not available.

rRevised by 5 percent or more from previously published figures. [1]Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators. [2]Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea. [3]Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey. [4]Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives. [5]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant to avoid disclosing figures for individual companies. [6]Oxygen gas, produced for cylinder and bulk delivery shipments combined with oxygen liquid, produced for cylinder and bulk delivery shipments.

DESCRIPTION OF SURVEY

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RELATED REPORTS

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An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

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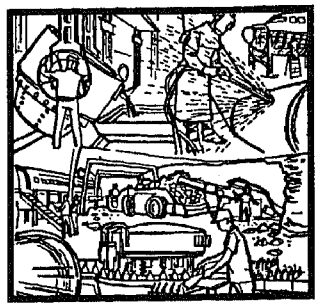
CURRENT INDUSTRIAL REPORTS

Industrial Gases

June 1973



U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

September 1973

SERIES: M28C(73)-6

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

Table 1. **Summary of Production of Principal Gases: 1971 to 1973**

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (2813331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
June	635	89,366	30,495	4,554	18,811	31,089
May	659	87,283	25,186	5,010	19,326	32,203
April	661	79,999	22,219	4,680	18,035	31,627
March	717	86,164	21,379	4,958	18,544	32,945
February	855	78,450	19,116	4,235	16,969	29,286
January	965	80,592	21,304	4,674	17,713	31,084
1972						
December	938	75,963	22,539	4,833	17,007	31,931
November	976	77,009	21,741	4,852	16,483	30,677
October	978	85,290	31,732	4,990	16,726	31,672
September	904	88,041	34,202	4,913	15,498	29,399
August	943	92,964	37,022	4,619	15,965	29,095
July	925	86,507	36,137	4,874	15,676	28,920
June	953	92,604	35,941	4,932	15,145	29,388
May	893	90,229	33,131	5,124	14,912	30,353
April	917	77,313	30,848	4,669	14,164	28,691
March	997	87,702	27,579	4,810	15,437	28,713
February	1,002	65,870	22,941	4,749	14,005	26,651
January	1,023	68,520	22,299	4,728	14,351	27,275
1971						
December	1,088	80,886	22,684	4,779	14,303	26,250
November	1,117	79,590	24,622	4,678	13,960	24,835
October	1,085	80,564	28,027	5,172	14,417	25,236
September	1,018	82,850	29,575	4,380	13,504	23,737
August	1,035	86,578	34,025	4,686	13,495	21,596
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June	1,024	82,979	29,871	4,628	13,900	26,738

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	JUNE 1973 QUANTITY PRODUCED	MAY 1973 QUANTITY PRODUCED	JUNE 1972 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	635	659	953
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	270	300	500
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	114	124	115
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	251	235	338
2813415	ARGON, HIGH PURITY	DO	351	379	321
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	351	379	321
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	89,366	r87,283	92,604
2813331	SOLID (DRY ICE)	DO	30,495	r25,186	35,941
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4,554	5,010	4,932
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	463	r610	630
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1,022	1,037	1,030
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3,069	3,363	3,272
2813440	NITROGEN, TOTAL (4)	DO	18,811	19,326	15,145
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	89	r88	81
	PRODUCED FOR PIPELINE SHIPMENT	DO	11,215	11,499	8,432
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,343	1,547	1,045
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,601	5,646	4,980
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	430	410	607
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	133	136	
2813450	OXYGEN, TOTAL	DO	31,089	32,203	29,388
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	170	197	(6)
	PRODUCED FOR PIPELINE SHIPMENT	DO	22,267	23,148	20,344
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	4,032
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	3,913	4,436	63,763
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	829	1,008	1,249
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	53,910	53,414	

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DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

Industrial Gases

July 1973

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

October 1973

SERIES: M28C(73)-7

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

TABLE 1.--SUMMARY OF PRODUCTION OF PRINCIPAL GASES: 1971 TO 1973

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (2813331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
July	617	92,187	33,891	4,938	19,394	32,228
June	633	89,366	30,271	4,655	18,601	31,273
May	659	87,283	25,186	5,010	19,326	32,203
April	661	79,999	22,219	4,680	18,035	31,627
March	717	86,164	21,379	4,958	18,544	32,945
February	855	78,450	19,116	4,235	16,969	29,286
January	965	80,592	21,304	4,674	17,713	31,084
1972						
December	993	86,837	19,059	4,981	17,316	32,065
November	983	97,937	20,996	4,955	16,827	30,992
October	984	101,385	26,404	5,043	17,260	31,796
September	912	103,875	28,273	4,973	16,302	29,269
August	961	109,330	30,558	4,686	16,697	29,064
July	932	101,775	30,775	4,949	16,411	29,014
June	969	108,792	29,659	4,887	15,994	29,263
May	868	105,629	28,593	5,118	15,936	30,085
April	925	92,331	25,737	4,731	14,976	28,879
March	1,005	107,012	25,195	4,972	15,899	28,771
February	1,005	74,678	21,845	4,804	14,804	26,540
January	1,031	85,167	19,445	4,791	15,118	27,452
1971						
December	1,088	86,941	22,795	4,781	14,537	26,252
November	1,118	85,646	24,733	4,681	14,192	24,809
October	1,086	86,620	28,139	5,176	14,650	25,237
September	1,019	88,906	29,687	4,382	13,741	23,733
August	1,036	92,634	34,137	4,689	13,729	21,603
July	1,020	92,000	33,206	4,660	13,894	26,408

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	JULY 1973 QUANTITY PRODUCED	JUNE 1973 QUANTITY PRODUCED	JULY 1972 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	617	633	932
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	269	270	479
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	107	112	103
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	241	251	350
2813415	ARGON, HIGH PURITY	DO	360	349	318
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	360	349	318
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	92,187	89,366	101,775
2813331	SOLID (DRY ICE)	DO	33,891	30,271	30,775
2813420	HYDROGEN,TOTAL (3)	MIL.CU.FT	4,938	4,655	4,949
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	563	564	470
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1,065	1,022	979
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3,310	3,069	3,500
2813440	NITROGEN, TOTAL (4)	DO	19,394	18,601	16,411
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	145	89	59
	PRODUCED FOR PIPELINE SHIPMENT	DO	11,372	11,047	9,311
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,427	1,343	1,239
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,808	5,559	5,285
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	375	430	382
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	267	133	135
2813450	OXYGEN, TOTAL	DO	32,228	31,273	29,014
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	175	170	36
	PRODUCED FOR PIPELINE SHIPMENT	DO	23,568	22,429	20,439
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	(5)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4,072	3,935	3,400
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	738	829	881
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	6 3,675	6 3,910	4,248

-Represents zero.

[1]Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators.

[2]Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea.

[3]Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey.

[4]Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives.

[5]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant to avoid disclosing figures for individual companies.

[6]Oxygen gas, produced for cylinder and bulk delivery shipments combined with oxygen liquid, produced for cylinder and bulk delivery shipments.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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RELATED REPORTS

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An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

August 1973

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

November 1973 SERIES: M28C(73)-8

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

TABLE 1.--SUMMARY OF PRODUCTION OF PRINCIPAL GASES: 1971 TO 1973

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (2813311) (Short tons)	Carbon dioxide, solid (2813331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
August	649	93,714	35,131	4,812	19,256	31,650
July	627	92,313	33,902	4,948	19,221	32,328
June	633	89,366	30,271	4,655	18,601	31,273
May	659	87,283	25,186	5,010	19,326	32,203
April	661	79,999	22,219	4,680	18,035	31,627
March	717	86,164	21,379	4,958	18,544	32,945
February	855	78,450	19,116	4,235	16,969	29,286
January	965	80,592	21,304	4,674	17,713	31,084
1972						
December	993	86,837	19,059	4,981	17,316	32,065
November	983	97,937	20,996	4,955	16,827	30,992
October	984	101,385	26,404	5,043	17,260	31,796
September	912	103,875	28,273	4,973	16,302	29,269
August	961	109,330	30,558	4,686	16,697	29,064
July	932	101,775	30,775	4,949	16,411	29,014
June	969	108,792	29,659	4,887	15,994	29,263
May	868	105,629	28,593	5,118	15,936	30,085
April	925	92,331	25,737	4,731	14,976	28,879
March	1,005	107,012	25,195	4,972	15,899	28,771
February	1,005	74,678	21,845	4,804	14,804	26,540
January	1,031	85,167	19,445	4,791	15,118	27,452
1971						
December	1,088	86,941	22,795	4,781	14,537	26,252
November	1,118	85,646	24,733	4,681	14,192	24,809
October	1,086	86,620	28,139	5,176	14,650	25,237
September	1,019	88,906	29,687	4,382	13,741	23,733
August	1,036	92,634	34,137	4,689	13,729	21,603

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233. This publication is for sale by the Bureau of the Census, Price: 15 cents per copy—$1.50 per year.

TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	AUGUST 1973 QUANTITY PRODUCED	JULY 1973 QUANTITY PRODUCED	AUGUST 1972 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	649	627	961
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	294	278	491
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	355	108	120
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO		241	350
2813415	ARGON, HIGH PURITY	DO	348	361	301
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	348	361	301
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	93,714	92,313	109,330
2813331	SOLID (DRY ICE)	DO	35,131	33,902	30,558
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	4,812	4,948	4,686
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	523	563	454
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1,031	1,075	1,008
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3,258	3,310	3,224
2813440	NITROGEN, TOTAL (4)	DO	19,256	19,221	16,697
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	89	r82	59
	PRODUCED FOR PIPELINE SHIPMENT	DO	11,203	11,260	9,640
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,504	1,423	1,290
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,818	5,808	5,116
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	421	r406	459
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	221	r242	133
2813450	OXYGEN, TOTAL	DO	31,650	32,328	29,064
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	136	175	40
	PRODUCED FOR PIPELINE SHIPMENT	DO	22,620	23,279	20,822
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	(5)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	3,816	4,070	3,403
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	882	738	904
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	54,196	54,066	53,895

-Represents zero.

[1]Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators.

[2]Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea.

[3]Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey.

[4]Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives.

[5]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant to avoid disclosing figures for individual companies.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

September 1973

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

November 1973

SERIES: M28C(73)-9

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

TABLE 1.--SUMMARY OF PRODUCTION OF PRINCIPAL GASES: 1971 TO 1973

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (281331) (Short tons)	Carbon dioxide, solid (2813331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
September	622	r87,253	31,151	r5,485	19,352	31,998
August	650	r100,845	35,132	r5,654	19,484	31,667
July	627	r99,474	33,902	r5,329	19,221	32,328
June	633	89,366	30,271	r5,627	18,601	31,273
May	659	87,283	25,186	5,010	19,326	32,203
April	661	79,999	22,219	4,680	18,035	31,627
March	717	86,164	21,379	4,958	18,544	32,945
February	855	78,450	19,116	4,235	16,969	29,286
January	965	80,592	21,304	4,674	17,713	31,084
1972						
December	993	86,837	19,059	4,981	17,316	32,065
November	983	97,937	20,996	4,995	16,827	30,992
October	984	101,385	26,404	5,043	17,260	31,796
September	912	103,875	28,273	4,973	16,302	29,269
August	961	109,330	30,558	4,686	16,697	29,064
July	932	101,775	30,775	4,949	16,411	29,014
June	969	108,792	29,659	4,887	15,994	29,263
May	868	105,629	28,593	5,118	15,936	30,085
April	925	92,331	25,737	4,731	14,976	28,879
March	1,005	107,012	25,195	4,972	15,899	28,771
February	1,005	74,678	21,845	4,804	14,804	25,540
January	1,031	85,167	19,445	4,791	15,118	27,452
1971						
December	1,088	86,941	22,795	4,781	14,537	26,252
November	1,118	85,646	24,733	4,681	14,192	24,809
October	1,086	86,620	28,139	5,176	14,650	25,237
September	1,019	88,906	29,687	4,382	13,741	23,733
August	1,036	92,634	34,137	4,689	13,729	21,603

rRevised by 5 percent or more from previously published figures.

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	SEPTEMBER 1973 QUANTITY PRODUCED	AUGUST 1973 QUANTITY PRODUCED	SEPTEMBER 1972 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	622	650	912
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	257	294	436
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	365	356	116
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			360
2813415	ARGON, HIGH PURITY	DO	357	346	318
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	357	346	318
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	87,253	r100,845	103,875
2813331	SOLID (DRY ICE)	DO	31,151	35,132	28,273
2813420	HYDROGEN,TOTAL (3)	MIL.CU.FT	5,485	r5,654	4,973
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	537	522	453
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	933	1,031	1,189
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	4,015	r4,101	3,361
2813440	NITROGEN, TOTAL (4)	DO	19,352	19,484	16,302
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	11,293	88	48
	PRODUCED FOR PIPELINE SHIPMENT	DO		11,442	9,421
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,492	1,504	1,210
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,875	5,808	5,139
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	415	421	362
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	277	221	122
2813450	OXYGEN, TOTAL	DO	31,998	31,667	29,269
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	188	136	36
	PRODUCED FOR PIPELINE SHIPMENT	DO	22,670	22,620	20,522
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	(5)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4,276	3,834	3,639
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	721	882	863
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	54,143	54,195	54,209

NA Not available. - Represents zero. rRevised by 5 percent or more from previously published figures.

[1]Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators.

[2]Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea.

[3]Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey.

[4]Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives.

[5]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant to avoid disclosing figures for individual companies.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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EXPLANATION OF TERMS

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A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

October 1973

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

January 1974

SERIES: M28C(73)-10

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

TABLE 1.--SUMMARY OF PRODUCTION OF PRINCIPAL GASES: 1971 TO 1973

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (281331) (Short tons)	Carbon dioxide, solid (2813331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
October	653	102,479	29,236	5,909	19,951	34,107
September	622	84,572	31,151	5,482	19,203	31,959
August	650	100,845	35,132	5,654	19,484	31,667
July	627	99,474	33,902	5,329	19,221	32,328
June	633	89,366	30,271	r5,627	18,601	31,273
May	659	87,283	25,186	5,010	19,326	32,203
April	661	79,999	22,219	4,680	18,035	31,627
March	717	86,164	21,379	4,958	18,544	32,945
February	855	78,450	19,116	4,235	16,969	29,286
January	965	80,592	21,304	4,674	17,713	31,084
1972						
December	993	86,837	19,059	4,981	17,316	32,065
November	983	97,937	20,996	4,995	16,827	30,992
October	984	101,385	26,404	5,043	17,260	31,796
September	912	103,875	28,273	4,973	16,302	29,269
August	961	109,330	30,558	4,686	16,697	29,064
July	932	101,775	30,775	4,949	16,411	29,014
June	969	108,792	29,659	4,887	15,994	29,263
May	868	105,629	28,593	5,118	15,936	30,085
April	925	92,331	25,737	4,731	14,976	28,879
March	1,005	107,012	25,195	4,972	15,899	28,771
February	1,005	74,678	21,845	4,804	14,804	25,540
January	1,031	85,167	19,445	4,791	15,118	27,452
1971						
December	1,088	86,941	22,795	4,781	14,537	26,252
November	1,118	85,646	24,733	4,681	14,192	24,809
October	1,086	86,620	28,139	5,176	14,650	25,237

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	OCTOBER 1973 QUANTITY PRODUCED	SEPTEMBER 1973 QUANTITY PRODUCED	OCTOBER 1972 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	653	622	984
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	280	259	477
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	373	363	135
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			372
2813415	ARGON, HIGH PURITY	DO	420	357	352
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	420	357	352
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	102,479	84,572	101,385
2813331	SOLID (DRY ICE)	DO	29,236	31,151	26,404
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	5,909	5,482	5,043
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	715	536	462
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1,020	932	1,088
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	4,174	4,014	3,493
2813440	NITROGEN, TOTAL (4)	DO	19,951	19,203	17,260
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	11,745	11,132	59
	PRODUCED FOR PIPELINE SHIPMENT	DO			9,944
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,552	1,494	1,333
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,964	5,886	5,378
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	423	415	422
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	267	276	124
2813450	OXYGEN, TOTAL	DO	34,107	31,959	31,796
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	187	188	64
	PRODUCED FOR PIPELINE SHIPMENT	DO	24,122	22,651	22,205
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	(5)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4,758	4,252	4,426
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	819	735	759
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	5,4,221	5,4,133	5,4,342

NA Not available. - Represents zero. r Revised by 5 percent or more from previously published figures.

[1] Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators.

[2] Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea.

[3] Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey.

[4] Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives.

[5] Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant to avoid disclosing figures for individual companies.

DESCRIPTION OF SURVEY

The statistics in this publication were collected on Census Monthly Form M28A.2, Industrial Gases - Production, and represent complete coverage of the approximately 670 producers of elemental gases, carbon dioxide, and acetylene.

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RELATED REPORTS

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An annual Current Industrial Report covering production and shipments of industrial gases is published in this series. The annual report includes more historical data and product detail than are shown in the monthly reports, and also includes detail by States for a number of industrial gases. The report is numbered M28A, Supplement 2.

EXPLANATION OF TERMS

Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

Stocks--Data shown for stocks represent quantities on hand, at the end of the month, at producing locations only, unless footnoted to indicate that the stock figure represents total stocks of producing companies including amounts held at locations other than producing plants.

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

CURRENT INDUSTRIAL REPORTS

Industrial Gases

November 1973

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

February 1974 **SERIES: M28C(73)-11**

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

TABLE 1.--SUMMARY OF PRODUCTION OF PRINCIPAL GASES: 1971 TO 1973

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (281331) (Short tons)	Carbon dioxide, solid (2813331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
November	663	88,264	23,891	5,646	19,201	33,041
October	653	102,479	28,636	5,909	19,953	34,092
September	622	84,572	31,151	5,482	19,203	31,959
August	650	100,845	35,132	5,654	19,484	31,667
July	627	99,474	33,902	5,329	19,221	32,328
June	633	89,366	30,271	5,627	18,601	31,273
May	659	87,283	25,186	5,010	19,326	32,203
April	661	79,999	22,219	4,680	18,035	31,627
March	717	86,164	21,379	4,958	18,544	32,945
February	855	78,450	19,116	4,235	16,969	29,286
January	965	80,592	21,304	4,674	17,713	31,084
1972						
December	993	86,837	19,059	4,981	17,316	32,065
November	983	97,937	20,996	4,995	16,827	30,992
October	984	101,385	26,404	5,043	17,260	31,796
September	912	103,875	28,273	4,973	16,302	29,269
August	961	109,330	30,558	4,686	16,697	29,064
July	932	101,775	30,775	4,949	16,411	29,014
June	969	108,792	29,659	4,887	15,994	29,263
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February	1,005	74,678	21,845	4,804	14,804	25,540
January	1,031	85,167	19,445	4,791	15,118	27,452
1971						
December	1,088	86,941	22,795	4,781	14,537	26,252
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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	NOVEMBER 1973 QUANTITY PRODUCED	OCTOBER 1973 QUANTITY PRODUCED	NOVEMBER 1972 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	663	653	983
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	279	278	475
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	384	375	131
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			377
2813415	ARGON, HIGH PURITY	DO	393	420	353
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	393	420	353
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	88,264	102,479	97,937
2813331	SOLID (DRY ICE)	DO	23,891	28,636	20,996
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	5,646	5,909	4,955
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	641	715	501
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1,019	1,020	1,045
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	3,986	4,174	3,409
2813440	NITROGEN, TOTAL (4)	DO	19,201	19,953	16,827
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	11,411	11,744	69
	PRODUCED FOR PIPELINE SHIPMENT	DO			9,866
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,535	1,547	1,330
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,587	5,972	5,015
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	380	423	417
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	288	267	130
2813450	OXYGEN, TOTAL	DO	33,041	34,092	30,992
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	187	187	55
	PRODUCED FOR PIPELINE SHIPMENT	DO	23,402	24,123	21,605
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	(5)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4,559	4,745	3,980
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	808	819	924
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	5,4,085	5,4,218	5,4,428

NA Not available. - Represents zero. [r]Revised by 5 percent or more from previously published figures.

[1]Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators.

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[3]Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey.

[4]Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives.

[5]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant to avoid disclosing figures for individual companies.

DESCRIPTION OF SURVEY

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EXPLANATION OF TERMS

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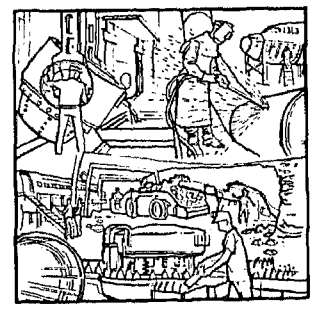
CURRENT INDUSTRIAL REPORTS



Industrial Gases

December 1973

March 1974

SERIES: M28C(73)-12

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

TABLE 1.--SUMMARY OF PRODUCTION OF PRINCIPAL GASES: 1971 TO 1973

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (281331) (Short tons)	Carbon dioxide, solid (2813331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1973						
December	663	89,870	23,532	5,800	19,783	33,332
November	663	91,929	23,990	5,647	19,215	33,035
October	653	102,479	28,636	5,909	19,953	34,092
September	622	84,572	31,151	5,482	19,203	31,959
August	650	100,845	35,132	5,654	19,484	31,667
July	627	99,474	33,902	5,329	19,221	32,328
June	633	89,366	30,271	5,627	18,601	31,273
May	659	87,283	25,186	5,010	19,326	32,203
April	661	79,999	22,219	4,680	18,035	31,627
March	717	86,164	21,379	4,958	18,544	32,945
February	855	78,450	19,116	4,235	16,969	29,286
January	965	80,592	21,304	4,674	17,713	31,084
1972						
December	993	86,837	19,059	4,981	17,316	32,065
November	983	97,937	20,996	4,995	16,827	30,992
October	984	101,385	26,404	5,043	17,260	31,796
September	912	103,875	28,273	4,973	16,302	29,269
August	961	109,330	30,558	4,686	16,697	29,064
July	932	101,775	30,775	4,949	16,411	29,014
June	969	108,792	29,659	4,887	15,994	29,263
May	868	105,629	28,593	5,118	15,936	30,085
April	925	92,331	25,737	4,731	14,976	28,879
March	1,005	107,012	25,195	4,972	15,899	28,771
February	1,005	74,678	21,845	4,804	14,804	25,540
January	1,031	85,167	19,445	4,791	15,118	27,452
1971						
December	1,088	86,941	22,795	4,781	14,537	26,252

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	DECEMBER 1973 QUANTITY PRODUCED	NOVEMBER 1973 QUANTITY PRODUCED	DECEMBER 1972 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	663	663	993
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	253	279	499
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	410	384	125
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			369
2813415	ARGON, HIGH PURITY	DO	376	393	345
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	376	393	345
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	89,870	[r]91,929	86,837
2813331	SOLID (DRY ICE)	DO	23,532	23,990	19,059
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	5,800	5,647	4,981
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	564	642	359
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	1,076	1,019	1,148
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	4,160	3,986	3,474
2813440	NITROGEN, TOTAL (4)	DO	19,783	19,215	17,316
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	11,740	11,420	69
	PRODUCED FOR PIPELINE SHIPMENT	DO			10,168
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,624	1,535	1,428
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,714	5,592	5,089
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	460	380	409
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	245	288	153
2813450	OXYGEN, TOTAL	DO	33,332	33,035	32,065
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	185	186	54
	PRODUCED FOR PIPELINE SHIPMENT	DO	22,878	23,402	22,457
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	(5)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4,760	4,553	4,200
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	938	808	829
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	[5]4,571	[5]4,086	[5]4,525

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[1]Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators.

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[5]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies.

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Production--Data shown for production represent total quantity of each chemical produced, including quantity consumed in plants, and for sale or transfer to other plants or warehouses of the same company. The statistics presented in the tables provide an up-to-date measure of activity in the inorganic field, but do not necessarily indicate amounts entering the market. In some cases, figures are included for material produced "in process" as an intermediate to the end products.

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CURRENT INDUSTRIAL REPORTS

Industrial Gases

Summary for 1973

(Preliminary)

Issued May 1974

SERIES: M28C(73)-13

Annual data for 1973 and 1972 shown in this release are a compilation of the monthly figures which have been appearing in this series. The figures for 1973 should be considered as preliminary and subject to revisions based on information furnished on Form MA-28E.2, Annual Report on Shipments and Production of Industrial Gases.

The statistics presented in the accompanying tables are for primary production, covering quantities produced for further processing in the same plant, for intracompany transfer, and for sale. They provide an up-to-date measure of activity in the inorganic field but do not necessarily indicate amounts entering the market. In some cases figures are included for material produced "in process" as an intermediate to the end products.

ACKNOWLEDGMENTS--This report was prepared in the Industry Division under the direction of Lonnie M. Conner, Chief, Chemicals and Wood Products Branch. Doris W. Funk, Chief, Chemicals, assisted by John P. Govoni, was directly responsible for the review of the data and preparation of the report. Elmer S. Biles, Chief of the Division, and Conrad Jacob, Assistant Division Chief for Commodity and Industry Programs, provided overall direction and coordination of this project.

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233.

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PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC code	Chemical and basis	Unit of measure	Production 1973	Production 1972
2813200	Acetylene[1]	.Mil.cu.ft..	8,370	11,568
	Produced for pipeline shipment (excluding that shipped to be compressed)	.....do.....	3,649	5,738
	Produced for compression, including cylinder and pipeline	.....do.....	4,721	1,507
	Produced for consumption in this plant	.....do.....		4,323
2813415	Argon, high purity	.....do.....	4,361	3,804
	Produced for cylinder and bulk delivery shipment	.....do.....	4,361	3,804
	Produced for pipeline shipment	.....do.....	-	-
	Produced for consumption in this plant	.....do.....	-	-
	Carbon dioxide:			
2813311	Liquid and gas[2]	S. tons.....	1,065,600	1,174,748
2813331	Solid (dry ice)	.....do.....	314,321	306,539
2813420	Hydrogen, total[3]	.Mil.cu.ft..	61,653	58,890
	Produced for cylinder and bulk delivery shipment	.....do.....	6,403	5,463
	Liquid produced for coversion to gas	.....do.....		
	Produced for pipeline shipment	.....do.....	12,170	12,834
	Liquid produced for government use	.....do.....		
	Produced for consumption in this plant	.....do.....	43,080	40,593
2813440	Nitrogen, total[4]	.....do.....	225,557	193,540
	Gas:			
	Produced for cylinder and bulk delivery shipment	.....do.....	133,631	771
	Produced for pipeline shipment	.....do.....		112,239
	Produced for consumption in this plant	.....do.....	17,798	14,950
	Liquid:			
	Produced for cylinder and bulk delivery shipment	.....do.....	66,782	58,951
	Produced for bulk shipment to pipelines or to other air separation plants	.....do.....	5,061	5,095
	Produced for consumption in this plant	.....do.....	2,285	1,534
2813450	Oxygen, total[4]	.....do.....	383,997	353,190
	Gas:			
	Produced for cylinder and bulk delivery shipment	.....do.....	2,270	530
	Produced for pipeline shipment	.....do.....	271,601	246,963
	Produced for consumption in this plant	.....do.....	([5])	([5])
	Liquid:			
	Produced for cylinder and bulk delivery shipment	.....do.....	50,418	[5]43,943
	Produced for bulk shipment to pipelines or to other air separation plants	.....do.....	10,211	10,275
	Produced for consumption in this plant	.....do.....	[5]49,497	[5]51,479

(NA) Not available.

[1]Excludes quantities of acetylene produced and consumed by railroad ships, shipyards, and small establishments using portable generators.

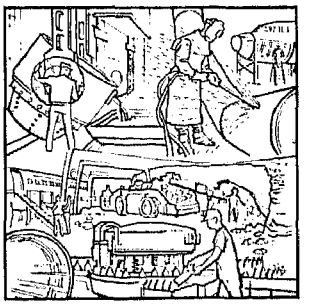
[2]Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plant manufacturing soda ash or urea.

[3]Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use.

[4]Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives.

[5]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies.

CURRENT INDUSTRIAL REPORTS



Industrial Gases

1973

Issued August 1974

SERIES: M28C(73)-14

Shipments of industrial gases by primary manufacturers in 1973 totaled $31 million, or about 4 percent more than the 1972 figure of $607 million. The 1973 total is composed of $79 million for acetylene; $42 million for carbon dioxide; and $510 million for the product grouping elemental gases and other industrial gases, n.e.c. Compared with 1972, the 1973 totals showed a 16 percent decrease for acetylene, a decrease of 13 percent for carbon dioxide, and an increase of 9 percent for other elemental gases.

Figures in this report exclude values for hydrocarbon gases, such as propane, butane and propylene, or halogenated hydrocarbons and cyclopropane, which are reported to the United States Tariff Commission, and for sulfur dioxide and chlorine, which are shown in the Current Industrial Reports, Series M28A(73)-14, Inorganic Chemicals and Gases.

The shipments values for some of the gases, particularly oxygen, reported by companies vary widely not only because of the conditions of sales, including delivery by pipeline or cylinder, but also because plant operations differ. The manufacturing and selling activities of some companies are centralized at the primary production site, while other companies sell or ship liquefied gases to other sites (filling stations or conversion units) where the products are changed in form, "packaged," and sold. The values reported for some sites thus include marketing activities and for other sites do not.

Figures showing the quantities shipped ot other plants of the same company (interplant transfers) were not compiled separately and thus are unavailable. In evaluating these interplant transfers for inclusion in the totals, respondents were instructed to report values which would approximate the commercial selling value, f.o.b. plant, and not the cost of production or some other book price.

Beginning in 1971, respondents were requested to report production either by specific methods of shipment or consumption in the producing plants for selected elemental gases and acetylene. Data for hydrogen, nitrogen, and oxygen include lower purity and high purity gas. Prior to 1971, lower purity gas was collected separately. Statistics for crude argon are collected separately. Special reporting instructions are also provided for carbon dioxide producers so that the chemical produced and shipped is reported only once, either in solid or liquid (including gaseous) form. Statistics exclude such activities as the liquefaction of purchased nitrogen. The quantities reported as produced exclude any information for gases used as fuel in producing plant, vented, or disposed

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233.

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of as waste. Other limitations of the statistics are indicated in footnotes appearing at the end of table 1.

In addition to the annual production statistics shown in table 1, monthly statistics for specified gases are shown in table 8. These monthly statistics supersede those which were released earlier in the monthly Current Industrial Reports, Series M28C, Industrial Gases, United States Production. Monthly and annual statistics have been issued beginning with January 1941. Geographic totals for specific gases are shown in tables 2 through 7. The geographic distribution of industrial gas plants by State is shown in table 9.

All figures included in this report are collected in thousand cubic feet, 70 F, at 1 atmosphere pressure, unless otherwise specified.

ACKNOWLEDGMENTS

This report was prepared in the Industry Division under the direction of Lonnie M. Conner, Chief for Chemicals, Wood Products, and Nonmetallic Minerals Branch. Cheryl R. Landman, was directly responsible for the review of the data and preparation of the report. Elmer S. Biles, Chief of the Division, and Conrad J. Jacob, Assistant Division Chief for Commodity and Industry Programs, provided overall direction and coordination to this project.

Table 1.--ANNUAL PRODUCTION AND SHIPMENTS OF INDUSTRIAL GASES: 1969 TO 1973

Code	Product	Unit of measure	Year	Quantity produced for all purposes	Total shipments including transfers quantity	Total shipments including transfers value ($1,000)
28133	Industrial gases, total		1973	(X)	(X)	[1]631,182
			1972	(X)	(X)	r[1]607,230
			1971	(X)	(X)	r[1]584,673
			1970	(X)	(X)	[1]633,602
			1969	(X)	(X)	[1]623,114
2813200	Acetylene[2]	Mil.cu.ft.	1973	8,278	5,057	78,694
			1972	r11,456	r7,208	r93,876
			1971	12,349	7,718	r102,001
			1970	14,834	8,926	98,952
			1969	15,818	9,372	98,542
	Produced for pipeline shipment excluding that shipped to be compressed	...do....	1973	3,483	3,483	34,256
			1972	r5,720	r5,720	r51,901
	Produced for compression, including cylinder and pipeline	...do....	1973	r1,590	r1,574	r44,438
			1972	r1,501	r1,495	r41,975
	Produced for consumption in this plant	...do....	1973	r3,205	(X)	(X)
			1972	r4,242	(X)	(X)
	Carbon dioxide, total	Short tons	1973	r1,568,121	r1,428,719	r42,091
			1972	r1,610,251	r1,500,523	r48,375
			1971	1,344,026	1,235,442	38,963
			1970	1,135,454	1,028,290	37,142
			1969	1,166,611	1,079,401	40,627
2813311	Liquid and gas	...do....	1973	[3]1,195,136	r1,077,455	25,472
			1972	[3]r1,259,935	r1,149,995	r29,552
			1971	[3]1,027,327	920,575	21,373
			1970	[3]814,810	710,743	19,467
			1969	[3]802,429	714,629	20,915
2813331	Solid (dry ice)	...do....	1973	r372,985	r351,264	r16,619
			1972	r350,316	r350,528	r18,823
			1971	316,699	314,867	17,590
			1970	320,644	317,547	17,675
			1969	364,182	364,772	19,712
28134--	Elemental gases and other industrial gases, n.e.c., total	.....	1973	(X)	(X)	r510,397
			1972	(X)	(X)	r464,979
			1971	(X)	(X)	r443,709
			1970	(X)	(X)	497,508
			1969	(X)	(X)	483,945
2813415	Argon, high purity, total	Mil.cu.ft.	1973	r4,382	r4,337	r35,961
			1972	r3,795	r3,798	r32,493
			1971	3,048	3,042	27,641
			1970	2,742	2,741	39,140
			1969	2,597	2,596	38,659
	Produced for cylinder and bulk delivery shipment	...do....	1973	r4,382	r4,337	r35,961
	Produced for pipeline shipment	...do....	1972	r3,795	r3,798	r32,493
	Helium[4]	...do....	1973	r3,205	r497	(NA)
			1972	r4,094	r489	(NA)
			1971	r4,560	447	(NA)
			1970	4,600	542	(NA)
			1969	4,662	670	(NA)
2813420	Hydrogen, total	...do....	1973	r[5]65,355	r18,914	r38,486
			1972	r[5]58,890	r17,949	r30,312
			1971	[5]55,681	17,470	r29,596
			1970	[5]59,654	20,940	35,380
			1969	[5]64,821	25,456	38,101
	Produced for cylinder and bulk delivery shipment	...do....	1973	r5,666	r5,703	r27,881
	Liquid produced for conversion to gas	...do....	1972	r4,755	r4,751	r19,345
	Produced for pipeline shipment	...do....	1973	r13,148	r13,211	r10,605
	Liquid produced for government use	...do....	1972	r13,539	r13,198	r10,967
	Produced for consumption in this plant	...do....	1973	r46,541	(X)	(X)
			1972	r40,596	(X)	(X)
2813440	Nitrogen, total[6]	...do....	1973	[7]228,099	[7]204,249	[7]150,959
			1972	[7]193,540	[7]176,833	r [7]130,358
			1971	[7]168,040	[7]153,758	r [7]118,666
			1970	151,191	134,925	[8]123,032
			1969	132,691	118,305	[8]118,635
	Gas:					
	Produced for cylinder and bulk delivery shipment	...do....	1973	418	408	2,851
			1972	771	750	3,030
	Produced for pipeline shipment	...do....	1973	133,340	132,312	38,965
			1972	112,239	112,139	30,399
	Produced for comsumption in this plant	...do....	1973	20,017	(X)	(X)
			1972	14,950	(X)	(X)

See footnotes at end of table.

Table 1.--ANNUAL PRODUCTION AND SHIPMENTS OF INDUSTRIAL GASES: 1969 TO 1973--Continued

Code	Product	Unit of measure	Year	Quantity produced for all purposes	Total shipments including transfers quantity	Total shipments including transfers value ($1,000)
	Elemental gases and other industrial gases, n.e.c.--Continued					
	Nitrogen[6]--Continued					
	Liquid:					
	Produced for cylinder and bulk delivery shipment	Mil.cu.ft.	1973	66,557	66,556	103,967
			1972	58,956	58,853	92,254
	Produced for bulk shipment to pipelines or to other air separation plants	...do....	1973	4,974	4,973	5,176
			1972	5,095	5,091	4,675
	Produced for consumption in this plant	...do....	1973	2,793	(X)	(X)
			1972	1,534	(X)	(X)
2813450	Oxygen, total[6]	..do....	1973	r [7]392,231	r [7]333,714	r [7]231,095
			1972	[7]351,733	[7]300,263	r [7]215,724
			1971	[7]319,171	[7]268,882	r [7]215,515
			1970	283,860	273,465	[8]237,675
			1969	275,962	264,958	[8]229,454
	Gas:					
	Produced for cylinder and bulk delivery shipment	...do....	1973	354	364	3,473
			1972	530	540	4,361
	Produced for pipeline shipments	...do....	1973	273,145	273,141	126,835
			1972	r 245,508	r 245,507	r 117,365
	Produced for consumption in this plant	...do....	1973	([9])	(X)	(X)
			1972	([9])	(X)	(X)
	Liquid:					
	Produced for cylinder and bulk delivery shipments	...do....	1973	49,166	49,152	86,390
			1972	43,943	43,943	81,239
	Produced for bulk shipment to pipeline or to other air separation plants	...do....	1973	r 11,057	r 11,057	r 14,397
			1972	r 10,273	r 10,273	r 12,159
	Produced for consumption in this plant	...do....	1973	[9]58,509	(X)	(X)
			1972	[9]51,479	(X)	(X)
2813471	Nitrous oxide	1,000 gals (STP)	1973	1,281,590	1,281,590	4,659
			1972	1,278,285	1,278,285	4,500
			1971	1,121,366	1,121,366	4,057
			1970	1,098,553	1,098,342	3,890
			1969	1,052,712	1,051,910	3,917
2813498	Other industrial gases, n.e.c., including crude argon, carbon dioxide produced and transferred for further processing, and crude and high purity helium produced in privately owned plants[10]	.....	1973	(X)	(X)	r 49,237
			1972	(X)	(X)	r 56,692
			1971	(X)	(X)	48,234
			1970	(X)	(X)	[8]58,381
			1969	(X)	(X)	[8]60,676

(NA) Not available. n.e.c. Not elsewhere classified. rRevised. (X) Not applicable.

[1]Excludes value for helium produced in government owned plants.
[2]Excludes information from railroad ships, shipyards, welding shops, and small establishments using portable generators.
[3]Excludes production of liquid and gas carbon dioxide converted to and reported as dry ice and also amounts converted from pure carbon dioxide (liguid or solid) purchased or received from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea, and quantities produced and transferred to other plants where it is further processed.
[4]Source: U.S. Department of Interior, Bureau of Mines.
[5]Excludes amounts vented, used as fuel, etc., and amounts produced and consumed in the manufacture of synthetic ammonia and methanol, but includes an unspecified amount produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts produced by the ammonia dissociation process (craking of ammonia). Also excludes amounts produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey.
[6]Excludes amounts produced and consumed in the manufacture of synthetic ammonia or ammonia derivatives.
[7]Data for 1973 and 1972 include figures for high and lower purity gas. Prior to 1971, data only included figures for high purity gas.
[8]Data for lower purity nitrogen and lower purity oxygen combined with code 2813498 for 1969 and 1970.
[9]Data for oxygen(gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies.
[10]Excludes hydrocarbon gases such as propane, butane, and propylene, or halogenated hydrocarbons and cyclopropane, which are reported to the U.S. Tariff Commission. Also excludes sulfur dioxide and chlorine, figures for which are shown in Current Industrial Reports Series M28A (73)-14, Inorganic Chemicals and Gases.

Table 2.--PRODUCTION AND SHIPMENTS OF ACETYLENE, BY GEOGRAPHIC AREA: 1973

Production	Production (mil. cu. ft.)	Total shipments including interplant tansfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	8,277	5,057	78,694
Northeast Region and North Central Region	912	777	21,281
South Region	7,003	3,995	49,447
Mountain Division	108	86	2,351
Pacific Division	254	199	5,615

[1]See table 9 for the number of establishments reporting production by State.

Table 3.--PRODUCTION AND SHIPMENTS OF CARBON DIOXIDE, BY DIVISIONS: 1973

Division	Total liquid and solid			Liquid and gas			Solid (dry ice)		
	Production (short tons)	Shipments		Production (short tons)	Shipments		Production (short tons)	Shipments	
		Quantity (short tons)	Value ($1,000)		Quantity (short tons)	Value ($1,000)		Quantity (short tons)	Value ($1,000)
UNITED STATES, TOTAL[1]	1,568,121	1,428,719	42,091	1,195,136	1,077,455	25,472	372,985	351,264	16,619
New England and Middle Atlantic	147,482	146,853	6,454	73,413	72,787	1,677	74,070	74,066	4,777
East North Central	297,431	255,959	5,939	215,081	195,326	3,577	82,350	60,633	2,362
West North Central	192,344	184,199	5,130	158,835	150,690	3,297	33,509	33,509	1,833
South Atlantic and East South Central	336,812	302,525	11,411	286,801	252,514	8,679	50,011	50,011	2,732
West South Central	318,782	269,851	7,689	290,705	241,774	6,131	28,077	28,077	1,558
Mountain	52,113	52,113	1,199	20,137	20,137	318	31,976	31,976	881
Pacific	223,156	217,219	4,269	150,164	144,227	1,793	72,992	72,992	2,476

[1]See table 9 for the number of establishments reporting production by State.

Table 4.--SHIPMENTS OF ARGON (HIGH PURITY) BY GEOGRAPHIC AREA: 1973

Geographic area	Total shipments including interplant transfers	
	Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	4,372	35,606
Northeast Region	967	7,613
East North Central Division	1,463	11,595
Ohio	474	3,626
South Atlantic Division	655	5,848
East South Central Division	105	1,230
West South Central Division	533	4,070
West Region	649	5,250
California	537	3,961

[1]See table 9 for the number of establishments reporting production by State.

Table 5.--PRODUCTION AND SHIPMENTS OF HYDROGEN (TOTAL) BY GEOGRAPHIC AREA: 1973

Geographic area	Production (mil. cu. ft.)	Total shipments including interplant transfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	65,355	18,884	38,486
Northeast Region	5,123	3,174	7,483
North Central Region	5,673	2,153	4,687
South Region and West Region	54,559	13,557	26,316
East South Central Division	5,583	1,830	2,030
West South Central Division	35,494	4,169	14,614

[1]See table 9 for the number of establishments reporting production by State.

Table 6.--PRODUCTION AND SHIPMENTS OF NITROGEN (TOTAL) BY GEOGRAPHIC AREA: 1973

Geographic area	Production (mil. cu. ft.)	Total shipments including interplant transfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	228,099	204,249	150,959
New England Division	3,345	3,304	4,057
Middle Atlantic Division	28,995	27,480	30,562
New York	3,614	3,150	3,712
New Jersey	8,945	8,897	12,598
Pennsylvania	16,436	15,433	14,252
North Central Region	48,048	46,916	36,182
Ohio	12,217	11,962	9,081
Illinois	9,315	9,077	10,281
South Atlantic Division	35,953	29,971	17,040
West Virginia	16,373	9,432	3,602
East South Central Division	17,541	15,328	12,860
Tennessee	5,321	3,660	2,672
Alabama	9,269	9,269	8,882
West South Central Division	68,731	57,400	26,046
Texas	54,299	46,474	19,139
Mountain Division	2,235	2,235	3,254
Utah	263	263	465
Pacific Division	23,251	21,615	20,958
California	21,625	20,752	19,337

[1]See table 9 for the number of establishments reporting production by State.

Table 7.--PRODUCTION AND SHIPMENTS OF OXYGEN (TOTAL) BY GEOGRAPHIC AREAS: 1973

Geographic area	Production (mil. cu. ft.)	Total shipments including interplant transfers	
		Quantity (mil. cu. ft.)	Value ($1,000)
UNITED STATES, TOTAL[1]	392,231	333,713	231,095
New England Division	1,164	1,154	1,878
Middle Atlantic Division	74,677	73,897	50,746
New York	16,250	16,195	9,820
New Jersey	2,595	2,598	4,933
Pennsylvania	55,832	55,104	35,993
North Central Region	144,799	125,305	80,618
Ohio	40,635	40,622	23,139
Michigan	23,054	12,575	7,116
South Atlantic Region	38,817	38,715	26,389
West Virginia	20,313	20,313	13,868
Florida	1,310	1,310	1,957
East South Central Division	24,952	24,869	18,315
Alabama	9,868	9,854	8,792
West South Central Division	81,195	43,516	26,792
Texas	57,779	35,330	20,364
Mountain Division	7,986	7,617	7,380
Utah	4,047	3,683	2,631
Pacific Division	18,641	18,640	18,977
California	17,177	17,176	15,840

[1]See table 9 for number of establishments reporting production by State.

Table 8.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES, BY MONTHS: 1973 AND 1972

Code	Product	Unit of measure	Year	Total	January	February	March	April	May	June	July	August	September	October	November	December
2813200	Acetylene	mil.cu.ft.	1973	8,278	889	767	696	698	685	661	646	662	651	652	669	602
			1972	r11,456	1,021	996	996	915	859	959	922	952	902	975	975	987
	Produced for pipeline shipment, excluding that produced to be compressed	....do....	1973	3,483	477	365	275	275	301	271	270	280	260	241	257	211
			1972	r5,720	501	489	490	456	437	496	478	490	435	476	474	498
	Produced for compression, including cylinder and pipeline	....do....	1973	1,590	141	128	138	127	131	121	117	132	126	151	145	133
			1972	r1,501	127	136	141	123	127	120	102	120	115	135	131	124
	Produced for consumption in this plant	....do....	1973	3,205	271	274	283	296	253	269	259	250	265	260	267	258
			1972	r4,242	393	371	365	336	295	344	343	343	353	365	371	363
2813415	Argon, high purity, total	....do....	1973	4,382	320	337	368	364	372	350	362	347	358	421	393	390
			1972	r3,795	282	272	316	296	326	322	317	300	317	351	352	344
	Produced for cylinder and bulk delivery shipment	....do....	1973	4,382	320	337	368	364	372	350	362	347	358	421	393	390
			1972	r3,795	282	272	315	296	326	322	317	300	317	351	352	344
	Carbon dioxide, total	Short tons	1973	1,568,121	116,429	117,958	121,499	111,145	132,714	135,844	143,758	148,424	135,385	145,937	134,323	124,705
			1972	r1,610,251	117,638	103,331	137,928	123,839	141,657	148,600	147,204	154,000	144,563	142,334	131,463	117,694
2813311	Liquid and gas	....do....	1973	1,195,136	89,210	94,531	95,825	84,885	101,963	101,344	103,646	109,081	100,006	110,283	106,044	98,318
			1972	r1,259,935	92,311	81,822	114,156	99,475	112,772	115,935	108,918	116,473	111,018	108,527	105,079	93,449
2813331	Solid (dry ice)	....do....	1973	372,985	27,219	23,427	25,674	26,260	30,751	34,500	40,112	39,343	35,379	35,654	28,279	26,387
			1972	r350,316	25,327	21,509	23,772	24,364	28,885	32,665	38,286	37,527	33,545	33,807	26,384	24,245
2813420	Hydrogen, total	mil.cu.ft.	1973	65,355	5,423	5,051	5,614	5,258	5,615	5,159	5,599	5,395	5,337	5,805	5,468	5,631
			1972	r58,890	4,810	4,816	4,934	4,788	5,091	4,870	4,914	4,688	4,934	5,035	4,932	5,078
	Produced for cylinder and bulk delivery shipment; Liquid produced for conversion to gas	....do....	1973	5,666	424	391	523	373	502	383	477	416	472	604	551	550
		....do....	1972	r4,755	420	379	413	376	424	405	382	391	360	390	413	403
	Produced for pipeline shipment; Liquid produced for government use	....do....	1973	13,148	984	979	1,031	1,082	1,142	1,101	1,198	1,098	1,035	1,152	1,148	1,198
		....do....	1972	r13,539	1,067	1,060	1,217	1,062	1,239	1,113	1,032	1,072	1,213	1,153	1,110	1,201
	Produced for consumption in this plant	....do....	1973	46,541	4,015	3,681	4,060	3,803	3,971	3,675	3,924	3,881	3,830	4,049	3,769	3,883
			1972	r40,596	3,323	3,377	3,304	3,350	3,428	3,352	3,500	3,225	3,361	3,492	3,409	3,474
2813440	Nitrogen, total	....do....	1973	228,099	17,982	17,307	19,205	18,404	19,512	18,691	19,354	19,344	19,425	19,950	19,243	19,682
			1972	193,540	15,118	14,804	15,899	14,976	15,936	15,994	16,411	16,697	16,302	17,260	16,827	17,316
	Gas: Produced for cylinder and bulk delivery shipment	....do....	1973	418	60	50	35	29	33	31	32	30	19	32	37	30
			1972	771	49	66	72	73	75	73	59	59	48	59	69	69
	Produced for pipeline shipment	....do....	1973	133,340	11,246	10,045	11,042	10,632	11,526	10,946	11,319	11,201	11,106	11,481	11,284	11,512
			1972	112,239	9,005	8,539	9,210	8,796	9,189	9,150	9,311	9,640	9,421	9,944	9,866	10,168
	Produced for consumption in this plant	....do....	1973	20,017	1,594	1,584	1,686	1,644	1,721	1,518	1,605	1,679	1,743	1,809	1,699	1,735
			1972	14,950	1,110	1,243	1,252	1,135	1,216	1,164	1,239	1,290	1,210	1,333	1,330	1,428

Table 8.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES, BY MONTHS: 1973 AND 1972--Continued

Code	Product	Unit of Measure	Year	Total	January	February	March	April	May	June	July	August	September	October	November	December
	Nitrogen--Continued															
	Liquid:															
	Produced for cylinder and bulk delivery	mil.cu.ft.	1973	66,557	4,534	4,992	5,702	5,465	5,599	5,541	5,786	5,786	5,864	5,948	5,561	5,779
			1972	58,951	4,393	4,362	4,757	4,435	4,949	5,033	5,285	5,116	5,139	5,378	5,015	5,089
	Produced for bulk shipment to pipelines or to other air separation plants	....do....	1973	4,974	342	438	530	437	415	434	373	425	415	408	375	382
			1972	5,095	466	465	492	430	380	411	382	459	362	422	417	409
	Produced for consumption in this plant	....do....	1973	2,793	206	198	210	197	218	221	239	223	278	272	287	244
			1972	1,534	95	129	116	107	127	163	135	133	122	124	130	153
2813450	Oxygen, total	....do....	1973	392,231	31,133	29,201	32,799	30,569	33,637	32,817	33,773	32,672	33,060	34,582	34,127	33,861
			1972	r351,733	27,331	26,418	28,645	28,758	29,965	29,142	28,892	28,993	29,148	31,676	30,871	31,944
	Gas:															
	Produced for cylinder and bulk delivery shipment	....do....	1973	354	37	40	42	34	34	9	39	23	26	24	23	23
			1972	530	41	38	40	44	41	41	36	40	36	64	55	54
	Produced for pipeline shipment	....do....	1973	r273,145	21,494	19,458	22,383	20,384	23,828	23,189	24,294	23,179	23,321	24,257	24,161	23,197
			1972	r245,508	19,102	18,084	19,573	20,164	21,042	20,218	20,318	20,701	20,401	22,085	21,484	22,336
	Produced for consumption in this plant	....do....	1973	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
			1972	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	Liquid:															
	Produced for cylinder and bulk delivery shipment	....do....	1973	49,166	3,757	3,716	3,968	4,061	4,305	3,824	3,962	3,740	4,175	4,636	4,435	4,587
			1972	43,943	3,248	3,340	3,558	3,420	3,774	3,555	3,400	3,403	3,639	4,426	3,980	4,200
	Produced for bulk shipment to pipelines or to other air separation plants	....do....	1973	11,057	802	901	1,043	943	1,079	908	827	967	807	884	901	995
			1972	r10,273	656	823	993	928	849	855	890	904	863	759	924	829
	Produced for consumption in this plant	....do....	1973	r 158,509	5,043	5,086	5,363	5,147	4,391	4,887	4,651	4,763	4,731	4,781	4,607	5,059
			1972	151,479	4,284	4,133	4,481	4,202	4,259	4,473	4,248	3,895	4,209	4,342	4,428	4,525

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[1]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies.

Table 9.--NUMBER OF ESTABLISHMENTS REPORTING THE PRODUCTION OF SELECTED INDUSTRIAL GASES, BY STATE: 1973

State	Acetylene 2813200	Carbon dioxide			Argon (refined) 2813415	Hydrogen 2813420	Nitrogen 2813440	Oxygen 2813450	Nitrous oxide 2813471
		Total[1] 28133	Liquid or gas[2] 2813311	Solid 2813331					
UNITED STATES, TOTAL	211	68	49	42	63	130	226	167	4
New England	5	1	-	1	1	4	9	5	-
Maine	-	-	-	-	-	1	-	1	-
New Hampshire	-	-	-	-	-	-	-	-	-
Vermont	-	-	-	-	-	-	1	-	-
Massachusetts	3	1	-	1	1	1	5	3	-
Rhode Island	1	-	-	-	-	-	0	-	-
Connecticut	1	-	-	-	-	2	3	1	-
Middle Atlantic	22	5	3	3	8	15	39	30	-
New York	6	2	2	-	1	4	10	4	-
New Jersey	5	2	1	2	2	8	7	5	-
Pennsylvania	11	1	-	1	5	3	22	21	-
East North Central	37	8	5	5	15	31	45	36	1
Ohio	14	3	3	2	6	9	14	16	1
Indiana	7	1	1	-	3	3	6	4	-
Illinois	5	3	-	3	3	13	16	10	-
Michigan	7	-	-	-	3	6	8	5	-
Wisconsin	4	1	1	-	-	-	1	1	-
West North Central	16	10	7	6	-	3	9	6	1
Minnesota	3	2	1	1	-	-	1	2	-
Iowa	3	3	3	2	-	-	-	-	-
Missouri	2	2	1	1	-	1	5	3	-
North Dakota	-	-	-	-	-	-	-	-	-
South Dakota	3	-	-	-	-	-	1	1	-
Nebraska	1	-	-	-	-	1	-	-	-
Kansas	4	3	2	2	-	1	2	-	1
South Atlantic	27	9	7	6	8	14	35	15	1
Delaware	-	-	1	-	1	4	2	2	-
Maryland	2	-	-	-	1	-	5	2	-
District of Columbia	-	-	-	-	-	-	-	-	-
Virginia	3	1	1	1	1	2	2	2	1
West Virginia	4	1	1	1	2	4	11	4	-
North Carolina	4	1	1	-	-	1	3	1	-
South Carolina	1	-	-	-	-	-	4	1	-
Georgia	4	2	1	1	1	2	3	1	-
Florida	9	4	2	3	2	1	5	2	-
East South Central	16	3	3	1	4	18	21	18	-
Kentucky	2	1	1	-	-	4	6	4	-
Tennessee	8	2	2	1	2	9	10	5	-
Alabama	4	-	-	-	2	4	4	8	-
Mississippi	2	-	-	-	-	1	1	1	-
West South Central	44	14	11	6	13	27	37	30	-
Arkansas	2	-	-	-	1	-	1	1	-
Louisiana	8	4	3	2	4	7	13	9	-
Oklahoma	5	-	-	-	-	1	-	-	-
Texas	29	10	8	4	8	19	23	20	-
Mountain	18	6	4	6	2	2	7	9	-
Montana	3	-	-	-	-	-	-	1	-
Idaho	2	-	-	-	-	-	-	-	-
Wyoming	1	-	-	-	-	-	-	-	-
Colorado	5	2	1	2	1	1	3	3	-
New Mexico	2	2	2	2	-	-	-	-	-
Arizona	1	-	-	-	-	-	2	2	-
Utah	3	2	1	2	1	1	2	3	-
Nevada	1	-	-	-	-	-	-	-	-
Pacific	26	12	9	8	12	16	24	18	1
Washington	5	2	2	2	1	2	2	2	-
Oregon	4	-	-	-	1	1	1	1	-
California	14	8	5	5	10	11	19	13	1
Alaska	1	-	-	-	-	-	-	-	-
Hawaii	2	2	2	1	-	2	2	2	-

-Represents zero.
[1]Unduplicated.
[2]Excludes plants converting entire production to solid.

CURRENT INDUSTRIAL REPORTS

Industrial Gases

January 1974

Issued April 1974

SERIES: M28C(74)-1

The statistics in this publication are based on a survey of manufacturers and represent U.S. production and stocks of industrial gases. Estimates are included for companies whose reports were not received in time for tabulation. A more complete description of the survey appears on page 3.

TABLE 1.--SUMMARY OF PRODUCTION OF PRINCIPAL GASES: 1972 TO 1974

Month and year	Acetylene (2813200) (Mil. cu. ft.)	Carbon dioxide, liquid and gas (281331) (Short tons)	Carbon dioxide, solid (2813331) (Short tons)	Hydrogen, high and low purity (100%) (Mil. cu. ft.)	Nitrogen, high and low purity (100%) (Mil. cu. ft.)	Oxygen, high and low purity (100%) (Mil. cu. ft.)
1974						
January	626	87,584	22,307	5,718	20,897	32,825
1973						
December	665	91,608	22,035	5,801	19,733	33,329
November	663	91,929	23,990	5,647	19,215	33,035
October	653	102,479	28,636	5,909	19,953	34,092
September	622	84,572	31,151	5,482	19,203	31,959
August	650	100,845	35,132	5,654	19,484	31,667
July	627	99,474	33,902	5,329	19,221	32,328
June	633	89,366	30,271	5,627	18,601	31,273
May	659	87,283	25,186	5,010	19,326	32,203
April	661	79,999	22,219	4,680	18,035	31,627
March	717	86,164	21,379	4,958	18,544	32,945
February	855	78,450	19,116	4,235	16,969	29,286
January	965	80,592	21,304	4,674	17,273	30,253
1972						
December	993	86,837	19,059	4,981	17,316	32,065
November	983	97,937	20,996	4,995	16,827	30,992
October	984	101,385	26,404	5,043	17,260	31,796
September	912	103,875	28,273	4,973	16,302	29,269
August	961	109,330	30,558	4,686	16,697	29,064
July	932	101,775	30,775	4,949	16,411	29,014
June	969	108,792	29,659	4,887	15,994	29,263
May	868	105,629	28,593	5,118	15,936	30,085
April	925	92,331	25,737	4,731	14,976	28,878
March	1,005	107,012	25,195	4,972	15,899	28,771
February	1,005	74,678	21,845	4,804	14,804	25,540
January	1,031	85,167	19,445	4,791	15,118	27,452

Inquiries concerning these figures should be addressed to the U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233.

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TABLE 2.--PRIMARY PRODUCTION OF SPECIFIED INDUSTRIAL GASES

SIC CODE	CHEMICAL AND BASIS	UNIT OF MEASURE	JANUARY 1974 QUANTITY PRODUCED	DECEMBER 1973 QUANTITY PRODUCED	JANUARY 1973 QUANTITY PRODUCED
2813200	ACETYLENE (1)	MIL.CU.FT	626	665	965
	PRODUCED FOR PIPELINE SHIPMENT (EXCLUDING THAT SHIPPED TO BE COMPRESSED)	DO	224	254	473
	PRODUCED FOR COMPRESSION, INCLUDING CYLINDER AND PIPELINE	DO	402	411	132
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO			360
2813415	ARGON, HIGH PURITY	DO	363	387	318
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	363	376	318
	PRODUCED FOR PIPELINE SHIPMENT	DO	-	-	-
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	-	-	-
	CARBON DIOXIDE:				
2813311	LIQUID AND GAS (2)	S.TONS	87,584	r91,608	80,592
2813331	SOLID (DRY ICE)	DO	22,307	r22,035	21,304
2813420	HYDROGEN, TOTAL (3)	MIL.CU.FT	5,718	5,801	4,674
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	516	564	472
	LIQUID PRODUCED FOR CONVERSION TO GAS	DO			
	PRODUCED FOR PIPELINE SHIPMENT	DO	964	1,076	905
	LIQUID PRODUCED FOR GOVERNMENT USE	DO			
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	4,238	4,161	3,297
2813440	NITROGEN, TOTAL (4)	DO	20,897	19,733	17,273
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	12,970	11,738	89
	PRODUCED FOR PIPELINE SHIPMENT	DO			10,773
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	1,557	1,572	1,377
	LIQUID:				
	PRODUCED FOR CYCLINDER AND BULK DELIVERY SHIPMENT	DO	5,595	5,729	4,555
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	775	447	337
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO		247	142
2813450	OXYGEN, TOTAL	DO	32,825	33,329	30,253
	GAS:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	184	185	210
	PRODUCED FOR PIPELINE SHIPMENT	DO	23,381	22,856	20,969
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	(5)	(5)	(5)
	LIQUID:				
	PRODUCED FOR CYLINDER AND BULK DELIVERY SHIPMENT	DO	4,247	4,764	3,864
	PRODUCED FOR BULK SHIPMENT TO PIPELINES OR TO OTHER AIR SEPARATION PLANTS	DO	816	946	706
	PRODUCED FOR CONSUMPTION IN THIS PLANT	DO	54,197	54,578	54,504

-Represents zero. rRevised by 5 percent or more from previously published figures.

[1]Excludes quantities of acetylene produced and consumed by railroad shops, shipyards, and small establishments using portable generators.

[2]Excludes production of liquid and gas CO_2 converted to and reported as dry ice and also amounts converted from pure CO_2 (liquid or solid) purchased or recieved from other plants. Also excludes quantities produced and consumed in plants manufacturing soda ash or urea.

[3]Excludes quantities produced and consumed in the manufacture of methanol and ammonia, but includes an unspecified amount of hydrogen produced for sale or interplant transfer to plants consuming this gas in the production of ammonia. Also excludes amounts of hydrogen produced in petroleum refineries for captive use. However, of the total shown for lower purity hydrogen prior to 1969, 70 to 75 percent was accounted for by petroleum refiners with captive hydrogen production. Not all such petroleum refineries were canvassed in this survey.

[4]Excludes amounts produced and used in the manufacture of ammonia and ammonia derivatives.

[5]Data for oxygen (gas), produced for consumption in this plant, combined with data for oxygen (liquid), produced for consumption in this plant, to avoid disclosing figures for individual companies.